

1 STATE OF MINNESOTA DISTRICT COURT

2 COUNTY OF RAMSEY SECOND JUDICIAL DISTRICT

3 - - - - -

4 The State of Minnesota,

5 by Hubert H. Humphrey, III,

6 its attorney general,

7 and

8 Blue Cross and Blue Shield

9 of Minnesota,

10 Plaintiffs,

11 vs. File No. C1-94-8565

12 Philip Morris Incorporated, R.J.

13 Reynolds Tobacco Company, Brown

14 & Williamson Tobacco Corporation,

15 B.A.T. Industries P.L.C., Lorillard

16 Tobacco Company, The American

17 Tobacco Company, Liggett Group, Inc.,

18 The Council for Tobacco Research-U.S.A.,

19 Inc., and The Tobacco Institute, Inc.,

20 Defendants.

21 - - - - -

22 DEPOSITION OF M. LANCE REYNOLDS

23

24

25

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1 (The following is the Rule 30.02(f)  
2 Deposition of M. LANCE REYNOLDS, taken pursuant to  
3 Notice of Taking Deposition, by videotape, at the  
4 offices of Robins, Kaplan, Miller & Ciresi, Attorneys  
5 at Law, 2800 LaSalle Plaza, 800 LaSalle Avenue,  
6 Minneapolis, Minnesota, on September 30, 1997,  
7 commencing at approximately 2:06 o'clock p.m.)

8

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15

16 EXAMINATION INDEX

17 WITNESS	EXAMINED BY	PAGE
18 M. Lance Reynolds	Ms. Wivell	6,127,138
19	Mr. McCormick	119,138

20

21

22

23

24

25

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1	EXHIBIT INDEX		
2	EXHIBIT	DESCRIPTION	PAGE
3	(Plaintiffs')		
4	4454	Letter to Yeaman, 7/4/63, 68903 3420	18
5	4455	Memo, Ward To Blott, 7/1/83, 67904	42
6		0686 to 0692	
7	4456	"Receptors for Nicotine in the	45
8		Central Nervous System:", 3/22/84,	
9		650000996 to 1034	
10	4457	"Note on Recommendations for future	76
11		research interests given at the 2nd	
12		meeting of the Scientific Research	
13		Group - Montreal, August 6-8, 1986,"	
14		107356044 to 6047	
15	4458	Hawkins McCain & Blumenthal, Inc.,	136
16		Conference Report, 7/28/77,	
17		777125397 to 5403/ BNW 23814 to 3820	
18			
19			
20			
21			
22			
23			
24			
25			

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1 P R O C E E D I N G S

2 (Witness sworn.)

3 M. LANCE REYNOLDS,

4 called as a witness, being first duly

5 sworn, was examined and testified as

6 follows:

7 ADVERSE EXAMINATION

8 BY MS. WIVELL:

9 Q. Sir, would you please introduce yourself to the  
10 ladies and gentlemen of the jury.

11 A. My name is Lance Reynolds.

12 Q. Mr. Reynolds, you and I have met before, haven't  
13 we?

14 A. That's correct.

15 Q. I took your deposition in the case of Minnesota  
16 -- State of Minnesota and Blue Cross\Blue Shield  
17 versus the various cigarette manufacturers earlier  
18 this year, didn't I?

19 A. Right.

20 Q. We spoke for two days, didn't we?

21 A. I believe so, yes.

22 Q. All right. Now sir, you are retired from Brown  
23 & Williamson; right?

24 A. Yes.

25 Q. And before your retirement you had worked for

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- 1 two cigarette manufacturers; isn't that true?
- 2 A. Yes.
- 3 Q. And you would agree that before you retired you
- 4 had spent the better part of your professional life
- 5 working for one or the other of those two cigarette
- 6 manufacturers; correct?
- 7 A. Most of it for Brown & Williamson.
- 8 Q. And sir, you would agree that you are now
- 9 retired; right?
- 10 A. Yes.
- 11 Q. Now when we last chatted, in addition to your
- 12 retirement benefits you were receiving money from
- 13 Brown & Williamson under a consulting contract;
- 14 right?
- 15 A. That's correct.
- 16 Q. Are you still receiving money under a consulting
- 17 contract with Brown & Williamson?
- 18 A. Yes.
- 19 Q. Now the contract that you and I spoke about last
- 20 time we met was from July 1st to July -- July 1st,
- 21 1996 to July 1st, 1997; right?
- 22 A. Right.
- 23 Q. And it's now September 30th, 1997. Do you have
- 24 a new contract?
- 25 A. The contract continued from year to year. In

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1 fact I think actually it's a five-year contract,  
2 expires in 2001.

3 Q. All right. Now sir, under the terms of that  
4 contract you get paid \$75,000 per year for up to 60  
5 days of work; right?

6 A. Right.

7 Q. That's 60 days per year.

8 A. Right.

9 Q. And you get paid that money whether you do  
10 anything or not; right?

11 A. Right.

12 Q. So this year you are entitled again, under the  
13 terms of the contract, to \$75,000; right?

14 A. Right.

15 Q. And you get that whether you work for Brown &  
16 Williamson a single day or not.

17 A. Right.

18 Q. Now how many days have you worked for Brown &  
19 Williamson since the first of July of this year?

20 A. About three or four.

21 Q. All right. Now sir, if you work beyond 60 days,  
22 according to this contract, you get \$1,250 per day;  
23 right?

24 A. Right.

25 Q. Now how many days did you work in -- beyond the

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1 60 days in 1996/97?

2 A. About 25 or 30.

3 Q. All right. So if we were to figure the amount  
4 that you received in your consulting contract last  
5 year from Brown & Williamson, it would have been  
6 \$75,000, and in addition \$1,250 per day times either  
7 20 or 30; right?

8 A. Right.

9 Q. Now sir, that's in addition to your retirement  
10 benefits; right?

11 A. Right.

12 Q. Now you understand that today you're here as  
13 Brown & Williamson's spokesperson to testify on  
14 behalf of the company; right?

15 A. Correct.

16 Q. Okay. And you're here because plaintiffs noted  
17 the deposition of Brown & Williamson and asked the  
18 company to produce a person to testify about matters  
19 known or reasonably knowable to Brown & Williamson on  
20 the subject of addiction and the control of nicotine  
21 and other reinforcing substances in cigarettes, and  
22 the design and manufacture of cigarettes; right?

23 A. That's basically what I understood, yes.

24 Q. All right. And you're here to be that  
25 spokesperson today, aren't you, sir?

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1 A. Yes.

2 Q. And you've agreed to be Brown & Williamson's  
3 spokesperson on those issues.

4 A. Yes.

5 Q. And you have authority to speak on behalf of  
6 Brown & Williamson concerning those issues; right?

7 A. Right.

8 Q. I'd like to turn to the subject of addiction  
9 first, sir. That's not a subject on which you have  
10 particular professional expertise personally, is it?

11 A. I'm not a psychiatrist, no.

12 Q. You're not a psychologist either, are you, sir?

13 A. No.

14 Q. All right. But you are aware that Brown &  
15 Williamson has, to the public, denied that cigarette  
16 smoking is addictive; right?

17 A. Yes, if you define "addiction" as classically  
18 defined.

19 Q. Well sir, let's choose the words Brown &  
20 Williamson has used. Brown & Williamson has said  
21 cigarette smoking is not addictive under the  
22 standards set forth by the 1964 surgeon general's  
23 report; right?

24 A. Right.

25 Q. Brown & Williamson said that in a press release

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1 that you've seen; isn't that true?

2 A. I don't know dispute it. I can't bring it to  
3 mind right now but --

4 Q. All right. Well sir, showing you what's  
5 previously been marked as Plaintiffs' Exhibit 4415,  
6 this is a press release which Brown & Williamson  
7 issued to the public in 1994; isn't it, sir?

8 MR. McCORMICK: Thank you.

9 A. Give me a second and, yes, it's a Brown &  
10 Williamson 1994 press release.

11 Q. Now in that press release it says, "It has  
12 always been B&W's position," that's Brown &  
13 Williamson; right?

14 A. Right.

15 Q. And it goes on to say, "It has always been B&W's  
16 position, and still is, that cigarette smoking is not  
17 addictive under the standards set forth in the 1964  
18 surgeon general's report"; right?

19 A. Right.

20 Q. And you would agree that one of the reasons  
21 Brown & Williamson issued this press release is so  
22 that people would hear it and believe what Brown &  
23 Williamson was saying there; right?

24 A. I don't know the -- the circumstances of this  
25 press release. I certainly agree with the sentence

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1 we've just quoted that cigarette smoking is not  
2 addictive under the standards set forth in the 1964  
3 surgeon general's report.

4 Q. Now sir, you would agree that in later surgeon  
5 general's report -- reports, the scientists who put  
6 those reports together determined that cigarette  
7 smoking was addictive; isn't that true?

8 A. Well I think it would be more accurate to say  
9 that the addiction was redefined in a later surgeon  
10 general's report so that cigarette smoking could be  
11 included under that definition of addiction.

12 Q. Now sir, are you aware of the fact that even  
13 before the 1964 surgeon general's report was issued,  
14 that Brown & Williamson had in its possession  
15 scientific research more extensive than that was --  
16 which was available in the published scientific  
17 literature concerning whether cigarette smoking was  
18 addictive?

19 A. You've asked me a lot of questions all in one  
20 piece then, but if I understand your question to me,  
21 and I'm trying to rephrase it, you asked me if Brown  
22 & Williamson had documents showing that cigarette  
23 smoking was addictive under what definition?

24 Q. Well sir, isn't it true that Brown & Williamson  
25 had in its possession, before the 1964 surgeon

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1 general's report, scientific research more extensive  
2 than that which was available in the published  
3 scientific literature which showed that cigarette  
4 smoking was addictive?

5 A. Well I'm going to say "no" to that.

6 Q. All right. Well let me show you what's  
7 previously been marked in this litigation as  
8 Plaintiffs' Exhibit 514. This is a document Bates  
9 numbered 301083820; right?

10 A. Yes.

11 Q. And it is entitled "PRIVATE & CONFIDENTIAL" and  
12 dated 13th February, 1962; correct?

13 A. Correct.

14 Q. And the subject heading is "THE EFFECTS OF  
15 SMOKING, PROPOSAL FOR FURTHER RESEARCH CONTRACTS WITH  
16 BATTELLE"; right?

17 A. Right.

18 Q. You've read this document, sir, haven't you?

19 A. Yes.

20 Q. And sir, you would agree that it summarizes  
21 research that British-American Tobacco Company had  
22 contracted to be done with Battelle Institute in  
23 Germany.

24 A. Geneva, I believe.

25 Q. I'm sorry, that's right. Let me rephrase the

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1 question.

2       You would agree that Exhibit 514 summarizes  
3 research British-American Tobacco Company had  
4 contracted to be done with Battelle Institute in  
5 Geneva, Switzerland; right?

6 A.    I certainly agree it's a document about research  
7 that -- which American Tobacco was undertaking with  
8 Battelle in Geneva. I'm -- Off the top of my head,  
9 till I've looked at it some more, I'm not quite sure  
10 whether it's a summary, a budget request or exactly  
11 what it is, but it's a document concerning research  
12 with Battelle.

13 Q.    All right. And we know from the first paragraph  
14 on the first page that it references research  
15 contracts with Battelle that started in February of  
16 1959; right?

17 A.    Yes.

18 Q.    And according to the first paragraph of Exhibit  
19 514, the overall objective was to increase  
20 British-American Tobacco's knowledge of the  
21 psychological and physiological effects of smoking  
22 and to explore the possibilities of obtaining the  
23 same results by a device other than a cigarette;  
24 right?

25 A.    Right.

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1 Q. Now if we turn to the page that ends with Bates  
2 number 828. At the top of the page is a statement,  
3 "As a result of these various researches we now  
4 possess a knowledge of the effects of nicotine far  
5 more extensive than exists in published scientific  
6 literature"; correct?

7 A. That is what the document says. I take that as  
8 hyperbole from the earth author. I think there was  
9 as much, if not more, in the scientific literature  
10 than was developed out of this research.

11 Q. Sir, this document was issue -- or was written  
12 by Sir Charles Ellis, wasn't it?

13 A. That's the author, yes.

14 Q. Have you ever spoken with Sir Charles Ellis  
15 about Exhibit 514?

16 A. I only met Sir Charles Ellis once in my life,  
17 and it was not to discuss this exhibit, no.

18 Q. All right. And so you don't know whether what  
19 he was saying was accurate or hyperbole, do you, sir?

20 A. Oh, I do. I mean you just look at the  
21 scientific literature and -- the extant scientific  
22 literature at the time, and there's a lot more in  
23 that than there is in this.

24 Q. Well sir, there may be a whole lot more, but you  
25 would agree that British-American Tobacco Company

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1 possessed information that was not published in the  
2 scientific literature concerning whether cigarette  
3 smoking was addictive; right?

4 A. Well let's back up. Can you just ask me that  
5 question again?

6 Q. Yes, sir.

7 Well there may be a whole lot more, but you  
8 would agree that British-American Tobacco Company  
9 possessed information that was not published in the  
10 scientific literature concerning whether cigarette  
11 smoking was addictive.

12 A. No, I don't agree with that.

13 Q. Well sir, this particular document references  
14 research entitled "The Fate of Nicotine in the  
15 Body." That was never published in the scientific  
16 literature, was it, sir?

17 A. There's tons of stuff in the scientific  
18 literature on nicotine in the body.

19 MR. McCORMICK: Could you please let him  
20 finish?

21 Q. Sir, was the document entitled "The Fate of  
22 Nicotine in the Body" ever published in the  
23 scientific literature?

24 MR. McCORMICK: Excuse me. I want to  
25 object to your interruption of the witness' last

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1 answer, ask you to please let him finish his answer  
2 to your question.

3 A. The Battelle study was not published in the  
4 scientific literature.

5 Q. In fact none of the Battelle studies that are  
6 referenced in this report that were done as part of  
7 project HIPPO or project MAD HATTER were ever  
8 published in the scientific literature, were they,  
9 sir?

10 A. No, it's very unlikely that they would have  
11 passed peer review.

12 Q. Well sir, they were never submitted for peer  
13 review, were they?

14 A. Well because they were not in a -- a state to be  
15 submitted for peer review.

16 Q. Sir, they were never submitted for peer review,  
17 were they?

18 A. No, because they weren't ready to be. There  
19 wasn't -- This work wasn't good enough.

20 Q. Well sir, is there a single document that you  
21 can direct me to that says this work wasn't good  
22 enough?

23 A. Sure.

24 Q. Which document is that, sir?

25 A. Dr. Armitage from the Tobacco Research Council

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1 in Harrogate visited Geneva and reviewed the work  
2 that had been done and wrote fairly scathing  
3 criticism of it.

4 Q. Actually what he suggested was that it shouldn't  
5 be given to the surgeon general of the United States  
6 in preparation for the surgeon general's 1964  
7 report. Isn't that true, sir?

8 A. I don't know whether he did or not. What I do  
9 remember -- You asked me a specific question about  
10 whether Armitage thought this stuff was good enough  
11 for publication, and he said no, he had all sorts of  
12 questions about it.

13 Q. Well sir, isn't it true that Dr. Armitage  
14 advised that it was too early to submit the Battelle  
15 reports to the surgeon general's committee and that  
16 as a result of that they were not shared with the  
17 surgeon general's committee when the 1964 report was  
18 being prepared?

19 A. Well they weren't shared because they weren't  
20 good enough.

21 Q. Well sir, let me show you a document and ask you  
22 if it says that.

23 (Plaintiffs' Exhibit 4454 marked for  
24 identification.)

25 BY MS. WIVELL:

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1 Q. Sir, showing you what's been marked as  
2 Plaintiffs' Exhibit 4454, this is a letter to a  
3 lawyer at Brown & Williamson from someone at  
4 British-American Tobacco Company; right?

5 A. Yes.

6 Q. And sir, it advises that the scientific reports  
7 that are referenced in Exhibit 514 not be shared with  
8 the surgeon general's committee. Isn't that true?

9 A. Well what it says is "T.R.C. CONSULTANT  
10 SCIENTISTS ADVISE IT IS TOO EARLY TO SUBMIT BATTELLE  
11 REPORTS TO SURGEON GENERAL'S COMMITTEE..." And it  
12 was too early because the work was embryo,  
13 inconclusive.

14 Q. Sir, you didn't read the whole rest of the  
15 sentence, did you? It goes on to say, "BUT WE THINK  
16 THEY WILL AGREE THAT CONTINUATION BY BATTELLE OF THE  
17 WORK WOULD BE USEFUL"; right?

18 A. Well it might be.

19 Q. All right, sir. And you would agree that in --  
20 nowhere in this document does it say that the work  
21 that Battelle did that looked at the psychological  
22 and physiological effects of smoking on the body was  
23 bad work or bad science; right?

24 A. No. If I gave you that impression, I didn't  
25 mean to. I just said it was inconclusive and

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1 Armitage had some pretty severe criticisms of it.

2 Q. Well sir, turning back to Exhibit 514, Sir

3 Charles Ellis concluded that smoking is addictive

4 based on this research, didn't he?

5 A. Well let's first draw my attention to the page

6 that you want me to look at, then we'll talk about

7 addiction. So where are we?

8 Q. Well sir, let's start by looking at the page

9 that ends with Bates number 826. There Sir Charles

10 said, in the middle of the first paragraph, "However,

11 the force of the habit or the strength of addiction

12 is not such as to give any grounds for complacency in

13 the face of alternative methods of stimulating the

14 body to meet stress, and that is just where the

15 danger lies since alternative methods are becoming

16 available"; correct?

17 A. That's what Sir Charles wrote in that paragraph,

18 yes.

19 Q. And then he goes on to say, at the bottom, in

20 the bottom paragraph, "What we need to know above all

21 things is what constitutes the hold of smoking, that

22 is, to understand addiction"; right?

23 A. Yeah. Now I don't know, and you don't know, and

24 who does know how Sir Charles was defining

25 "addiction" because I'm not aware that he's defined

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1 it.

2 Q. Well sir, if we turn to the end of page 830 we  
3 see he again references addiction, doesn't he, sir?

4 A. Well he references addiction, yes.

5 Q. And he says, "Thus we have already greatly  
6 increased our knowledge of the manifold ways in which  
7 nicotine affects the body and, in particular, have  
8 identified and studied separately the stress  
9 resisting mechanism and the other effect on the liver  
10 which we believe is responsible for addiction." Have  
11 I read that correctly, sir?

12 A. You have read correctly what he stated. I think  
13 there are problems in here both of science and  
14 definition.

15 Q. Well sir, Brown & Williamson never shared with  
16 the public that its sister company, British-American  
17 Tobacco, employed a person who believed cigarette  
18 smoking was addictive, did it?

19 MR. KOMAR: Object to form.

20 (Interruption by the reporter.)

21 A. I'm sorry, could you repeat the question?

22 Q. Yes, sir. Brown & Williamson never shared with  
23 the public that its sister company, British-American  
24 Tobacco, employed a person who believed that  
25 cigarette smoking was addictive, did it?

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1 A. Well I -- it's such a peculiar question, I don't  
2 even know how to begin answering it. I mean, there  
3 may very well have been people who believed it. Who  
4 knows, there are loads of scientists.

5 But, you know, to be real accurate, I don't know  
6 whether you consider a consultant an employee or  
7 not. If you want to define a consultant as an  
8 employee, and then you can define how Sir Charles  
9 defined addiction, then with those -- those provisos,  
10 but, I mean, it's such a weird question to ask.

11 As I say, I'm sorry, I don't really know how to  
12 answer it.

13 Q. Well Sir Charles was on the board of  
14 British-American Tobacco Company, wasn't he; the  
15 Board of Directors?

16 A. I don't know.

17 Q. You just don't know one way or the other?

18 (Interruption by the reporter.)

19 A. No.

20 Q. Now sir, you understand that Sir Charles also  
21 met with researchers to discuss with them the issue  
22 of whether cigarette smoking was addictive; right?

23 A. Yeah, I think if we can say that he met with  
24 people to try and understand why people smoked and  
25 smoking behavior and that's -- if we don't keep on

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1 getting hung up on "addiction" for the moment but  
2 just met with people to discuss why people smoked,  
3 sure.

4 Q. And as a matter of fact, he wrote memos that  
5 found their way into Brown & Williamson's files that  
6 talked about the cravings which smokers experience  
7 when nicotine withdrawal begins; isn't that true?

8 A. If you showed me the document, if it's in the  
9 files, and then I probably will agree with you.

10 Q. All right, sir. We're going to have to mark my  
11 copy because I ended up with only one.

12 (Discussion off the stenographic record.)

13 BY MS. WIVELL:

14 Q. Showing you what's previously been marked as  
15 Plaintiffs' Exhibit 552, that is a document which is  
16 a report of a meeting which Mr. Ellis -- which Sir  
17 Charles Ellis had with two scientists from Battelle  
18 Geneva; right?

19 A. Right. Well I don't know if it's a report of a  
20 meeting, it's -- it's -- this says "A TENTATIVE  
21 HYPOTHESIS ON NICOTINE ADDICTION," for the  
22 British-American Tobacco Company, by Kaselbach and  
23 Libert. I don't know whether it's a meeting report  
24 or not.

25 Q. All right, sir. For the record, this document

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1 is Bates numbered 536480912 on its first page; right?

2 A. Right.

3 Q. All right. Would you turn to the second page of  
4 the document. I have highlighted a portion of the  
5 first paragraph; correct?

6 A. Yes.

7 Q. Would you please read to the ladies and  
8 gentlemen of the jury what's written in that report?

9 A. Okay. And this report is this tentative  
10 hypothesis by these two Battelle employees. And it  
11 says, on page 2, "If nicotine intake, however, is  
12 prohibited to chronic smokers, the  
13 corticotropin-releasing ability of the hypothalamus  
14 is greatly reduced, so that these individuals are  
15 left with an unbalanced endocrine system. A body  
16 left in this unbalanced status craves for renewed  
17 drug intake in order to restore the physiological  
18 equilibrium. This" uneasiness "desire explains the  
19 addiction of the individual to nicotine."

20 Q. Doesn't it say, "this unconscious desire  
21 explains the addiction of the individual to  
22 nicotine"?

23 A. That's what it said. Sorry, what did I say?

24 Q. I'm sorry, I thought you said something else.

25 A. Well I may have done. It's kind of small and

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1 squidgy writing.

2 Q. All right. Now sir, you understand that these  
3 documents that we have looked at so far, the one that  
4 you have in your hand, Exhibit 552, plus the others  
5 concerning the research that was done at Battelle,  
6 were sent by British-American Tobacco to Brown &  
7 Williamson; right?

8 A. I believe that's correct, yes.

9 Q. Now sir, you understand that Brown & Williamson  
10 also had information in its files that showed that  
11 cigarette smokers went through withdrawal when they  
12 were not able to have a cigarette on a regular  
13 basis.

14 A. Well there's a huge amount of anecdotal evidence  
15 about withdrawal from cigarettes, and that's not only  
16 part of everyday experience, I guess, I mean, it's  
17 everywhere. It doesn't happen to be just in Brown &  
18 Williamson files. I would assume it's in novels,  
19 newspapers, anywhere.

20 Q. Well are you admitting that cigarette smokers go  
21 through withdrawal when they can't get their  
22 cigarettes on a regular basis?

23 A. Well depends how you define "withdrawal," but as  
24 an ex smoker myself, I might have been a little  
25 grumpy if I didn't have a cigarette, might have had a

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1 funny taste in my mouth. If you -- If you consider  
2 that withdrawal, sure.

3 Q. All right. Well sir, and it's true, isn't it,  
4 that Brown & Williamson had evidence in its files  
5 that cigarette smokers who did not get their normal  
6 regular cigarette dose of nicotine went through  
7 withdrawal.

8 A. Well, as I say, if you define "withdrawal" as  
9 I've defined it, you know, I'm not sure of any sort  
10 of questionnaire stuff but it's just sort of general  
11 knowledge that smokers report various kinds of mild  
12 physical/psychological discomfort when either they  
13 don't have a cigarette for a long time or are giving  
14 up smoking.

15 Q. Sir, I'm going to show you what's previously  
16 been marked as Plaintiffs' Exhibit 755. This is a  
17 document from Brown & Williamson's files, isn't it?

18 A. Well it's so jolly hard even to read that I  
19 don't know whether it's from our files or not. If it  
20 is, I mean, I'll sure accept it.

21 Q. Well sir, did you read this document in  
22 preparation for your deposition today?

23 A. Well, I kind of looked at it very briefly this  
24 morning, but I was put off by the quality of the copy  
25 so I -- I didn't study it in any detail.

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1 Q. All right. Well sir, directing your attention  
2 to the first two paragraphs of the document, those  
3 paragraphs tell us essentially that this particular  
4 document is a summary of excerpts from an R&D report  
5 entitled "Why Do People Smoke."

6 A. Umm-hmm.

7 Q. A smoking behavior motives and incentives paper,  
8 and notes on a St. Martin Island conference that  
9 I. W. Hughes attended; correct?

10 A. Yeah.

11 Q. Now let's start with I. W. Hughes. Wally Hughes  
12 was vice-president of research and development for  
13 Brown & Williamson and then went on to become  
14 president of the company, didn't he?

15 A. And subsequently chairman, yes.

16 Q. And sir, you are aware of notes that were taken  
17 at a St. Martin Island conference in which smoking  
18 and the addictive nature of smoking was discussed,  
19 aren't you?

20 A. Well again, you asked me several questions at  
21 once. This St. Martin Island conference was actually  
22 published as a book, "Smoking Behavior: Motives  
23 and --

24 (Interruption by the reporter.)

25 A. -- Incentives," I think that's what it was

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1 called.

2 Edited by Durn, and this was -- you know, this  
3 is a book you can go and get from your public library  
4 or go and buy in a book store. I don't remember  
5 specifically seeing notes by Hughes on the subject,  
6 but as I say, the book I still have.

7 Q. All right. You've read it, sir, haven't you?

8 A. Yeah.

9 Q. All right. Now this paper basically is a  
10 synopsis of information taken from those three  
11 sources that we've just discussed; right?

12 A. That's what it says.

13 Q. And sir, if you turn to the second page, it says  
14 there, "Nicotine vacates the system in 30 minutes or  
15 so and at that time withdrawal starts"; right?

16 A. Sorry, where does it say that? Okay.

17 Q. Do you see the end of the first paragraph?

18 A. I see it says that. I'm not sure that I would  
19 -- Well it certainly doesn't vacate the system in 30  
20 minutes, the nicotine -- half life of nicotine in the  
21 body is very much longer, so I don't know where  
22 that's drawn from.

23 Q. All right. But it does go to say -- go on to  
24 say, "Nicotine vacates the system in 30 minutes or so  
25 and at that time withdrawal starts", doesn't it?

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1 A. Well that's what it says. I don't agree with  
2 it.

3 Q. All right. Well but that's at least what this  
4 document out of Brown & Williamson's files concludes;  
5 right?

6 A. I don't know whether it concludes it. It says  
7 it.

8 Q. It also talks about addicted smokers, doesn't  
9 it, sir?

10 A. Well I don't know. Where -- Guide me.

11 Q. All right. Can you turn to the page that ends  
12 with Bates number 106. There is a heading there that  
13 says, "Addictive" smokers -- "Smoking"; right?

14 A. Oh, you're referring to Tomkins' theory which I  
15 guess starts on Bates page 104, and this is -- this  
16 section of this document is describing Tomkins'  
17 theory of smoking motivation and he has various kinds  
18 of smoking motivation; habitual smoking,  
19 positive-effect smoking, negative-effect smoking and  
20 addictive smoking, so they are describing here  
21 Tomkins' theory.

22 Q. All right. And a little earlier in the document  
23 there is reference to a Dr. Russell who was, I  
24 believe, a consultant to British-American Tobacco  
25 Company; right?

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1 A. I don't know if he ever was actually a  
2 consultant. He certainly advised and worked with  
3 British-American Tobacco. As you are probably aware,  
4 he was sort of one of the leading British smoking  
5 researchers and antismokers.

6 Q. Well didn't you tell me at our last meeting,  
7 sir, during the deposition, that Dr. Russell was a  
8 consultant to British-American Tobacco?

9 A. I don't know whether I did or I didn't. As I  
10 said, he certainly worked and advised with them on  
11 some projects. Whether he actually accepted any  
12 money from them, I have no idea.

13 Q. Now sir, Dr. Russell was of the opinion that  
14 cigarette smoking was addictive, isn't that true?

15 A. Yes, he did think that.

16 Q. And as a matter of fact, he is quoted in this  
17 document as commenting about the purpose of nicotine,  
18 isn't he, sir?

19 A. Are we on page number 101?

20 Q. Well can you take a look at the page that ends  
21 with 103. Do you see there in the middle of the  
22 sentence -- or the middle of the page reference to  
23 "According to Russell, to prove dependence on a drug  
24 it is critical that its withdrawal leads to some  
25 negative effects"?

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1 A. I see that, yes.

2 Q. And it goes on to say, "Thus withdrawal of  
3 cigarettes from heavy smokers may reduce them to a  
4 subjectively distressed state, with symptoms of  
5 anxiety, depression, irritability, restlessness,  
6 intense craving as well as difficulty in  
7 concentration"; right?

8 A. Right.

9 Q. Now sir, isn't it true that Brown & Williamson  
10 recognized -- I'm sorry. Strike that.

11 Isn't it true that Brown & Williamson knew that  
12 cigarette smokers were addictive -- addicted, and  
13 that was an operating hypothesis within the company?

14 A. No, the definition of addiction which the  
15 company accepts and subscribes to is basically the  
16 one that includes an addictive substance produces  
17 behavioral intoxication and the user will go to  
18 extraordinarily-harmful-to-society lengths to obtain  
19 the addictive substance. And so cigarette smoking,  
20 by no stretch of the imagination, falls into that and  
21 that's why Brown & Williamson doesn't consider  
22 cigarette smoking addictive.

23 Q. Well sir, Brown & Williamson has access to  
24 research documents and memos from its sister company,  
25 British-American Tobacco, as a result of a pooling

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1 agreement and cost-sharing agreement that it has with  
2 BATCo; correct?

3 A. Correct.

4 Q. And in fact British-American Tobacco shared the  
5 information that it obtained from Battelle Institute  
6 with Brown & Williamson; isn't that true?

7 A. Yes.

8 Q. And Brown & Williamson also received copies of  
9 memos which BATCo scientists had written concerning  
10 the subject of addiction; right?

11 A. Yes.

12 Q. Sir, showing you what's previously been marked  
13 as Plaintiffs' Exhibit 553, this is a memo that Brown  
14 & Williamson would have had access to that was  
15 written to Dr. S. J. Green and Dr. C. I. Ayres;  
16 right?

17 MR. McCORMICK: Now wait a minute. Could  
18 you ask those questions one at a time, please?

19 Q. Well this is a memo that Brown & Williamson  
20 would have had access to that was written to Dr. S.  
21 J. Green and Dr. C. I. Ayres; right?

22 MR. McCORMICK: Object, compound.

23 A. Okay. The memo, as we've said, is sent to Green  
24 and Ayres. Whether Brown & Williamson had a copy of  
25 it or not, I just don't know. I mean, there isn't a

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1 Brown & Williamson recipient shown.

2 Q. All right. But clearly Brown & Williamson had

3 the right to have access to any research or memos

4 written by scientists at BATCo; right?

5 A. In principle, yeah.

6 Q. All right. Now sir, for the record, Exhibit 553

7 is Bates numbered 105392360; right?

8 A. Right.

9 Q. Would you turn to the page that ends with Bates

10 number 366. This page shows that it -- the memo was

11 written by A. K. Comer; right?

12 A. Right.

13 Q. Now do you know who Ms. Comer was?

14 A. I met her on a number of occasions, yes.

15 Q. And what area did she work in at BATCo?

16 A. Broadly I would call it the area of smoking

17 behavior.

18 Q. She was a psychologist, wasn't she?

19 A. I don't know.

20 Q. Now she reports in this memorandum, Exhibit 553,

21 on comments of a talk that she had attended that had

22 been given by Dr. Russell.

23 A. Yes.

24 Q. And she says, after reading -- I'm sorry. She

25 says at -- toward the end of this document, "In

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1 summary, it appears that most workers who are not  
2 directly concerned with the tobacco industry use the  
3 terms 'addiction' or 'dependence' rather than  
4 'habituation', and can be considered quite correct  
5 in doing so"; right?

6 A. Considered quite correct from their point of  
7 view, yes.

8 Q. And this is the point of view of a scientist at  
9 BATCo who's involved with smoker psychology; right?

10 A. Well I don't -- don't read the paragraph quite  
11 the same way as you do. She's saying that workers  
12 who were not directly concerned with tobacco industry  
13 used the terms addiction or dependence rather than  
14 habituation, and they, in their opinion, have a case  
15 for doing that.

16 And as an objective person she's saying I can  
17 see their point of view, but that's not necessarily  
18 our point of view.

19 Q. Well this document also quotes -- I'm sorry.  
20 Strike that.

21 You're aware that Dr. Russell was of the opinion  
22 that cigarette smoking was addictive; correct?

23 A. Yes, yes.

24 Q. Now are you also aware -- Strike that.

25 Do you know who Dr. M. Oldman is?

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1 A. Yeah, he was a B.A.T. employee at one time who  
2 was also a psychologist.

3 Q. All right. And he also worked in the area of  
4 smoker motivation and dependency for BATCo, didn't  
5 he?

6 A. Well, he worked largely in the area of, if I  
7 recollect it correctly, in subjective assessment,  
8 trying to find out and get panels to describe what  
9 cigarettes taste like. He may have done some work on  
10 smoking behavior as well.

11 Q. Sir, have you reviewed memos that Dr. Oldman has  
12 written on the issue of why people smoke?

13 A. Not in connection with this deposition, no.

14 Q. Sir, showing you what's previously been marked  
15 as Plaintiffs' Exhibit 611, this is a document that  
16 begins with the Bates number 105392223; correct?

17 A. Yes.

18 Q. And this is a memo written by Dr. Oldman to Dr.  
19 Green.

20 MR. McCORMICK: Excuse me. What's the  
21 exhibit number again on this?

22 MS. WIVELL: 611.

23 MR. McCORMICK: Thank you.

24 Q. Sir, this is a memo written by Dr. Oldman to Dr.  
25 Green at BATCo; right?

- 1 A. Right.
- 2 Q. And the date of the document is November 25th,
- 3 1977.
- 4 A. Right.
- 5 Q. And he refers to the fact, in the first page,
- 6 that he is enclosing a note entitled "Smoking
- 7 Motivation and Dependency"; right?
- 8 A. Right.
- 9 Q. And if we turn to the second page of Exhibit 611
- 10 we see the beginning of that note; right?
- 11 A. Yeah.
- 12 Q. Now he's talking about the smoker population in
- 13 this note entitled Smoker Motivation and Dependency;
- 14 right?
- 15 A. Right.
- 16 Q. And the last paragraph -- I'm sorry. Strike
- 17 that.
- 18 The last sentence of the first page talks about
- 19 the motivation of the smoker; right?
- 20 A. I'm sorry, I've never seen this -- not that I've
- 21 never seen it before, I haven't seen it recently, so
- 22 I'm trying to catch up. Sorry. And your question?
- 23 Q. Yes, sir. Let me restate it.
- 24 In the last sentence of the page he's talking
- 25 about smoker motivation; right?

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1 A. Well he's talking about smoker motivation in the  
2 whole paragraph and he's saying there might be a  
3 continuum of reasons why smokers smoke.

4 Q. And he's talking about, in the last sentence,  
5 "the latter motivation," as he puts it; correct?

6 A. Yes.

7 Q. And he says, "The latter motivation, however,  
8 more closely resembles an urge or drive and might be  
9 described as an addictive behavior beyond cognitive  
10 control and likely to be associated with  
11 pharmacological dependency"; right?

12 A. Right. I mean, he's setting up a hypothesis  
13 here. This isn't factual stuff. This is saying,  
14 let's take a theory and we can see smokers'  
15 motivations running from one extreme to another, and  
16 these are the two ends of the scale.

17 Q. And "addiction" is on the one end of the scale,  
18 according to Dr. Oldman; right?

19 A. Well an addictive behavior. However, he's --  
20 well he does define that in part but, you know, I'd  
21 refer you back to the cover page as well where he  
22 says, "...this note contains a number of possibly  
23 dubious assumptions" and "it may be that the implied  
24 research proposals are premature." I think in fact  
25 what he says is I'm trying to stimulate some

1 discussion here.

2 Q. And he's talking then about giving the broadest  
3 consideration to the topic so that it can be  
4 discussed outright; right?

5 A. That seems to be it, yes.

6 Q. Now sir, isn't it true that approximately the  
7 same time that Dr. Oldman was talking about smoker  
8 motivation in terms of addiction, folks at Brown &  
9 Williamson were also internally recognizing that  
10 smoking was addictive?

11 A. No. I mean, we keep on getting muddled up how  
12 I'm defining "addiction" and how you're defining  
13 "addiction," and we never have considered smoking  
14 addictive at Brown & Williamson.

15 Q. Well sir, let me show you --

16 A. I don't know on behalf of B.A.T. either except,  
17 you know, in a very loose use and undefined way of  
18 using the word.

19 Q. Sir, show -- let me show you what's previously  
20 been marked as Plaintiffs' Exhibit 178. This is an  
21 internal Brown & Williamson document from one Brown &  
22 Williamson employee to another, isn't it, sir?

23 A. It's from one junior marketing person to another  
24 junior marketing person, yeah.

25 Q. And they're both Brown & Williamson employees,

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1 aren't they; sir?

2 A. They were.

3 Q. At the time this memo was written.

4 A. Yes.

5 Q. And it's entitled "Future Consumer Reaction To

6 Nicotine"; right?

7 A. Right.

8 Q. And it says in the second paragraph, "Very few

9 consumers are aware of the affects of nicotine, i.e.,

10 its addictive nature and that nicotine is a poison";

11 right?

12 A. Well the --

13 Q. That's what it says sir, doesn't it?

14 A. What it says is just what you read out to me,

15 and "its addictive nature" is plain flat wrong, and

16 "nicotine is a poison," as we discussed when I was

17 last here, is well known to both you, me and the

18 State of Minnesota.

19 Q. Well sir, you would agree that very few

20 consumers were aware of the fact that nicotine was

21 addictive.

22 A. Nicotine isn't addictive.

23 Q. And so, sir, if a smoker heard you say that or

24 read -- We'll start with you.

25 If a smoker heard you say that, would it be

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1 reasonable for them to believe what you're telling  
2 them is the truth?

3 A. They would ask me to justify why, and I would  
4 tell them.

5 Q. Well sir, I'm not sure that answers my  
6 question.

7 A. Absolute --

8 Q. Would it be -- I'm sorry.

9 You know the rules. You can't talk when I'm  
10 talking and vice versa; right?

11 A. Right.

12 Q. Would it be reasonable for a person who heard  
13 you deny that smoking was addictive, to believe  
14 that?

15 MR. McCORMICK: Objection, mischaracterizes  
16 the statement.

17 A. Yeah.

18 Q. Okay. Now sir, if a person read Brown &  
19 Williamson's press release that claimed that smoking  
20 was not addictive under the standards set forth in  
21 the 1964 surgeon general's report, it would be  
22 reasonable for that person to believe Brown &  
23 Williamson, wouldn't it?

24 A. Well we're talking about two different things.  
25 We were talking in this about nicotine being

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1   addictive and I've -- Is that subject now closed?

2           Are we moving on to another subject?

3   Q.    I'm sorry, I don't think you've answered my  
4   question, sir. Let me repeat it again.

5           If a person read Brown & Williamson's press  
6   release that claimed that cigarette smoking wasn't  
7   addictive under the standards set forth in the 1964  
8   surgeon general's report, it would be appropriate for  
9   Brow -- for that person to believe that Brown &  
10   Williamson was telling them the truth; isn't that  
11   true?

12   A.    It would be appropriate, yes.

13   Q.    All right. Now sir, you know that Brown &  
14   Williamson employees used -- I'm sorry. Strike  
15   that.

16           You know that Brown & Williamson employees  
17   typically referred to smoking as an addictive  
18   behavior, don't you?

19   A.    No, I don't.

20   Q.    Sir, showing you what's previously been marked  
21   as Plaintiffs' Exhibit 452, this is a document from  
22   one Brown & Williamson personnel to a number of other  
23   Brown & Williamson employees; correct?

24   A.    All long gone.

25   Q.    All right. But all Brown & Williamson

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- 1 employees, weren't they?
- 2 A. All marketing people.
- 3 Q. Nonetheless, they were Brown & Williamson
- 4 employees; right?
- 5 A. Correct.
- 6 Q. And if we turn to the second page of the
- 7 document, this document begins with point 1,
- 8 "Relationship of nicotine level to switching
- 9 behavior"; right?
- 10 A. Right.
- 11 Q. And it says, "Nicotine is the addicting agent in
- 12 cigarettes," doesn't it, sir?
- 13 A. That's what Mr. Mellman said, yes.
- 14 Q. And sir, isn't it true that Brown & Williamson
- 15 employees often referred to the fact internally that
- 16 cigarette smokers of their products were addicted to
- 17 cigarette smoking?
- 18 A. No.
- 19 (Plaintiffs' Exhibit 4455 marked for
- 20 identification.)
- 21 BY MS. WIVELL:
- 22 Q. Sir, showing you what's been marked as
- 23 Plaintiffs' Exhibit 4455, this is a document that
- 24 begins with the Bates number 679040686; correct?
- 25 A. Yes.

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1 Q. And this is a document written in 1983 from one  
2 Brown & Williamson employee to another -- to a number  
3 of other Brown & Williamson employees; correct?

4 A. From a Brown & Williamson marketing person to a  
5 number of other Brown & Williamson marketing  
6 persons.

7 Q. And it's entitled --

8 But they're all -- whether or not they're in the  
9 marketing department, they were Brown & Williamson  
10 employees, weren't they, sir?

11 A. Well except for the two on the right who, Hannum  
12 and something or other, Mavericks, who have a  
13 parenthesis C&W.

14 Q. Which stands for what, sir?

15 A. Well I can speculate to the point that that was  
16 some external supplier, but I don't know who.

17 Q. And the subject of this is "RALEIGH/BELAIR  
18 COUPON STRATEGY"; correct?

19 A. Yes.

20 Q. And if we turn to the second page of the  
21 document, do you see reference to Raleigh and Belair  
22 or R and B smokers being addicted?

23 A. That's what this document says, yes.

24 Q. It says specifically, "Raleigh and Belair  
25 smokers are addicted to smoking"; right?

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1 A. That's apparently the author -- what the author  
2 is saying here. It's his viewpoint.

3 Q. Now sir, let me ask you again.

4 Isn't it true that Brown & Williamson employees  
5 commonly referred to the fact internally that  
6 cigarette smoking was addictive?

7 A. No, I mean, you produced three documents out of  
8 I don't know how many you have, of like 33 million,  
9 I'm quite sure you can produce another 30 or 40 but,  
10 you know, as someone who was there working at Brown &  
11 Williamson every day for 23 years, no, we did not  
12 commonly talk about cigarette smoking being addictive  
13 or Raleigh and Belair smokers being addicted to  
14 smoking.

15 Q. Well sir, you were aware that Brown & Williamson  
16 had in its possession information that showed  
17 nicotine had an effect on the brain; right?

18 A. Yeah.

19 Q. And you understand that Brown & Williamson had  
20 information that confirmed the existence of specific  
21 binding sites in the brain -- I'm sorry -- in the  
22 central nervous system for nicotine; right?

23 A. Well golly, that's been known for eons.

24 Q. Well sir, we're talking about Brown & Williamson  
25 here. You would agree that Brown & Williamson had

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1 scientific research which confirmed the existence of  
2 specific binding sites in the brain -- I'm sorry --  
3 in the central nervous system for nicotine; right?

4 A. Well we had access to the scientific literature  
5 which anyone else interested in the subject had, so  
6 therefore we had that information of course, yes.

7 Q. Well sir, Brown & Williamson also had  
8 information that was available to it and it alone  
9 because it wasn't published in the scientific  
10 literature; isn't that true?

11 A. I don't think anything of any consequence, no.

12 Q. Well sir, let me show you a document and ask you  
13 if it was published in the scientific literature.

14 (Plaintiffs' Exhibit 4456 marked for  
15 identification.)

16 BY MS. WIVELL:

17 Q. Sir, showing you what's been marked as  
18 Plaintiffs' Exhibit 4456, this is a study entitled  
19 "RECEPTORS FOR NICOTINE IN THE CENTRAL NERVOUS  
20 SYSTEM I RADIOLIGAND BINDING STUDIES, REPORT NO.  
21 RD.1960 RESTRICTED"; correct?

22 A. Yeah.

23 Q. It's dated March 22nd, 1984.

24 A. Correct.

25 Q. Was Exhibit 4456 ever published in the

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1 scientific literature so other scientists could read  
2 it, sir?

3 A. Well I think, and you'd have to bear with me and  
4 I don't think either of us want to take up all this  
5 time going through it in detail, but I believe Dr.  
6 Templeton was really picking up on stuff that had  
7 already been published in the literature -- I'm  
8 looking for the references to see where she picked up  
9 from -- and certainly if you turn to Bates number  
10 020, there are 20 references there which all refer to  
11 the external literature, and I think she was just  
12 beginning to develop some of the in-house expertise  
13 to follow up on what all these people had been doing.

14 Q. Well sir --

15 A. So, I'm sorry, this is a long answer to a  
16 question and I apologize.

17 Basically I -- If it probably was not published,  
18 it probably was not published because it wasn't  
19 adding anything to what was already here.

20 Q. Sir, this particular document reports the study  
21 of nicotine on rats, doesn't it?

22 A. Right.

23 Q. And this study, Exhibit 4456, was not published  
24 in the scientific literature so other scientists  
25 could read and review it; isn't that true?

1 A. Well I don't think it was going to add anything  
2 to what they already knew.

3 MS. WIVELL: Move to strike as  
4 nonresponsive.

5 Q. Sir, my question isn't asking you whether or not  
6 it's adding anything new.

7 My question is simply this: Exhibit 4456 was  
8 not published in the open scientific literature so  
9 other scientists could review what Brown & Williamson  
10 and British-American Tobacco Company knew; isn't that  
11 true?

12 A. Well it wasn't published because it wasn't  
13 adding anything to what was known.

14 Q. Well sir, why did -- Strike that.

15 Sir, this study reports in detail the  
16 development and application of techniques to identify  
17 and characterize regions within brain tissue where  
18 nicotine could bind and elicit a pharmacological  
19 response; right?

20 A. Sure, yeah. I mean B.A.T. scientists were  
21 always keeping up-to-date with the literature that  
22 was -- work that was going on outside and then  
23 looking at the methodology in-house to understand it  
24 and see where it may lead.

25 Now this is my recollection, and I have not read

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1 this now or in preparation for this deposition --  
2 although I was aware that it was one of the documents  
3 that you wished to discuss -- but as I say, it's a  
4 first step at developing the technology in-house to  
5 understand these procedures, yeah.

6 Q. All right. And sir, this study established that  
7 nicotine bound to at least two sites in the central  
8 nervous system of the rat; correct?

9 A. I'm sure it -- Yeah -- Well I don't know whether  
10 it did or didn't, but it binds to lots of receptors  
11 in any organism, you know, from a squid axon to a rat  
12 to a monkey to me.

13 Q. Well sir, if we turn to the page that ends with  
14 Bates number 999 we see that there is a technical  
15 abstract; correct?

16 A. Yes.

17 Q. And the technical abstract says, "A method is  
18 described to investigate the nature and properties of  
19 nicotine receptors in the central nervous system...of  
20 the rat"; right?

21 A. Yes.

22 Q. And it says, "It has been established that  
23 nicotine binds to (at least) two" sites -- "two types  
24 of site"; correct?

25 A. Yes.

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- 1 Q. And that's what this study established; right?
- 2 A. Right.
- 3 Q. Now sir, you would agree that nicotine is a
- 4 drug, wouldn't you?
- 5 A. In so far as nicotine has pharmacological
- 6 effects and that's how we define a drug, sure, yes.
- 7 Q. All right. And you would agree that the smoking
- 8 act can be a means of nicotine dosing, wouldn't you?
- 9 A. Well that's been hypothesized. I'm not sure.
- 10 Q. Do you know who Graham Read is?
- 11 A. British-American Tobacco Company scientist.
- 12 Q. He actually is head of research and development
- 13 for British-American Tobacco Company, isn't he?
- 14 A. Today, yes.
- 15 Q. And in 1984 he was a scientist who made a
- 16 presentation at a seminar that you attended on
- 17 smoking behavior; isn't that true?
- 18 A. I'm not disputing it but, you know -- I don't
- 19 remember the occasion, but I could very well have
- 20 done so.
- 21 Q. All right, sir. Let me show you what's been
- 22 marked as Exhibit 731. Exhibit 731 begins with the
- 23 Bates number 100535243; correct?
- 24 A. Yes.
- 25 Q. And it is a presentation that Dr. Read gave

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1 concerning the different levels of nicotine  
2 interaction; right?

3 A. That's the title, yes.

4 Q. All right. And this is a presentation he gave  
5 at a seminar that you attended on behalf of Brown &  
6 Williamson that was held in Southampton; isn't that  
7 true?

8 A. As I say, so you tell me. I don't dispute it.

9 Q. All right.

10 MS. WIVELL: I would like to take a break.

11 THE REPORTER: Off the record, please.

12 (Recess taken from 3:00 to 3:09 p.m.)

13 BY MS. WIVELL:

14 Q. Sir, directing your attention to Exhibit 731,  
15 there at the bottom of the first page is a reference  
16 to the fact that the smoking act can be considered as  
17 a means of nicotine dosing; correct?

18 A. That's what he says, yes.

19 Q. All right. Now sir, did Brown & Williamson ever  
20 tell the people who were smoking its cigarettes in  
21 any way that they were receiving a drug?

22 A. Well I think everyone knows that nicotine's a  
23 drug.

24 Q. Well sir, you haven't done a survey to determine  
25 whether people know that, do you?

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1 A. You know, I don't see the need for it, but no,  
2 we haven't.

3 Q. And you can't point me to any research that  
4 looked at the issue of whether -- whether smokers  
5 knew that cigarette smoking was a drug.

6 A. Well, I'm sorry, that statement, as you  
7 expressed it, I don't mean to be difficult, but it  
8 doesn't mean anything.

9 Q. Well sir, you're -- you would agree that within  
10 ten seconds of starting to smoke nicotine's available  
11 in the brain; right?

12 A. Yeah, but the question you asked me before that  
13 you said I would agree that cigarette smoking is a  
14 drug, and I -- I mean, cigarette smoking is a habit,  
15 but cigarette smoking is something someone does so I  
16 don't see how cigarette smoking can be a drug.

17 Q. Well sir, isn't a cigarette a  
18 drug-administration system?

19 A. Not in my view, no.

20 Q. Well sir, isn't it true that within ten seconds  
21 of starting to smoke, a cigarette's nicotine is  
22 available in the brain?

23 A. I'm sure it's in that order, yes.

24 Q. All right. And sir, isn't it true that what a  
25 cigarette really is is a fast, highly

1 pharmacologically effective, cheap drug-delivery  
2 system?

3 A. Well certain people have expressed that view,  
4 but I don't accept that myself.

5 Q. Well you know that certain people within the  
6 B.A.T. group have expressed that view, don't you,  
7 sir?

8 MR. KOMAR: Object to form.

9 A. Yes, I do.

10 (Interruption by the reporter.)

11 A. I'm sorry. There was --

12 Are you referring to an employee of  
13 British-American Tobacco Company?

14 Q. Well yes, sir, I'm referring to Colin Greig.  
15 You're aware that he expressed that view at a  
16 conference that was held of representatives from  
17 various B.A.T. group companies that was held in  
18 Southampton, England; right?

19 A. I'm not sure where it was held, but I've seen  
20 that document. I think we discussed it last time I  
21 was with you.

22 Q. All right. Sir, showing you what's been marked  
23 as Plaintiffs' Exhibit 516, this is the document that  
24 you were referring to just a few moments ago, wasn't  
25 it?

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- 1 A. Yes.
- 2 Q. For the record, Exhibit 516 begins with the
- 3 Bates number 100503495; right?
- 4 A. Right.
- 5 Q. And in this document --
- 6 By the way, it was a presentation that Mr. Greig
- 7 gave to a conference, a B.A.T. group conference;
- 8 right?
- 9 A. Correct.
- 10 Q. And in this presentation he talked about the
- 11 drug -- the -- I'm sorry. Strike that.
- 12 In this conference he talked about the cigarette
- 13 as a, quote unquote, drug administration system for
- 14 public use; right?
- 15 A. Yeah, as I understand he was kind of being
- 16 provocative in this first part of the discussion,
- 17 possibly to get the attendees' attention.
- 18 Q. Well sir, it doesn't say he's being provocative,
- 19 does it? It says, "A cigarette as a 'drug'
- 20 administration system for public use has very very
- 21 significant advantages"; doesn't it?
- 22 A. I -- Yeah, that's what the document says, yeah.
- 23 Q. And sir, basically he's talking about, in just a
- 24 little bit different terms, the same thing that Dr.
- 25 Read was talking about in Exhibit 731 when he was

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1 talking about the smoking act being considered a  
2 means of nicotine dosing; right?

3 A. This is -- Yeah, this is a hypothesis they were  
4 both discussing.

5 Q. Well sir, that was the operative hypothesis  
6 within the B.A.T. group companies, right, that the  
7 cigarette is a means of devel -- of delivering a  
8 pharmacologically active substance, i.e., nicotine,  
9 to the smoker.

10 A. Well it probably varied by the company or varied  
11 by the person. That's part of cigarette smoking, but  
12 it's certainly not all of cigarette smoking I'm sure.

13 Q. Well sir, would you agree with Dr. Greig when he  
14 says on the page that ends with Bates number 497,  
15 "Thus we have an emerging picture of a fast, highly  
16 pharmacologically effective and cheap 'drug',  
17 tobacco, which also confers flavor and manual and  
18 oral satisfaction to the user." Is that what a  
19 cigarette does, sir?

20 A. Not totally to my mind, no.

21 Q. Well would you agree that the cigarette is a way  
22 of -- of delivering a pharmacologically effective  
23 substance, nicotine, to the smoker?

24 A. Well we know that nicotine has pharmacological  
25 effects. I wouldn't say it's highly

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1 pharmacologically effective. It certainly has  
2 pharmacological effects.

3 Q. And the cigarette is a good way of delivering  
4 this pharmacologically active substance to the brain,  
5 isn't it?

6 A. Yeah.

7 Q. Now sir, you would agree that the scientific  
8 community believes cigarette smoking is addictive,  
9 doesn't it?

10 A. Oh, come back again to semantics and  
11 definition. Defining it my way, no; defining it  
12 according to whatever it was, the 1988, was it,  
13 surgeon general's report, I mean certainly people  
14 will subscribe to that and agree to that, I mean, so  
15 you'll get two points of view.

16 Q. Well sir, you would agree that the point of view  
17 to which Brown & Williamson subscribes is out of the  
18 mainstream of scientific thought concerning whether  
19 cigarette smoking is addictive.

20 A. You know, it may be.

21 Q. Now sir, if Brown & Williamson believed  
22 cigarette smoking was addictive, what could they --  
23 it do to make it nonaddictive?

24 A. Well if Brown & Williamson believed that  
25 cigarette smoking was addictive and they had --

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1 Well it's very difficult to answer the question  
2 if you don't have a reason, and as I say, we don't  
3 believe it's addictive. Now to have people stop  
4 smoking our cigarettes we could make them so they  
5 have a nasty taste or the filter would fall off or  
6 something like that but then all they would do is  
7 smoke somebody else's cigarettes so that's kind of a  
8 self-defeating proposition.

9 Q. Well sir, you would agree that it is  
10 technologically feasible to remove nicotine from  
11 cigarettes, wouldn't -- isn't it?

12 A. Yes.

13 Q. And that's one thing that Brown & Williamson  
14 could do if it admitted that cigarette smoking was  
15 addictive and wanted to make cigarettes nonaddictive;  
16 right?

17 A. Well irrespective of whether or not it admitted  
18 cigarette smoking is addictive or not, it could do it  
19 if it was willing to pay a license to Philip Morris,  
20 who I think has probably got the only commercially  
21 viable method of denicotinizing tobacco.

22 Q. In fact you are aware that folks have sold  
23 cigarettes made out of other substances, like lettuce  
24 or herbs; right?

25 A. Right.

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- 1 Q. People don't buy them, do they?
- 2 A. Not for long.
- 3 Q. No, because they don't have nicotine in them, do
- 4 they?
- 5 A. Well, I mean that could very well be the reason
- 6 but they also have a foul taste and smell so I can't
- 7 see any motive for smoking them.
- 8 Q. Sir, would it be proper to do anything to a
- 9 product to make it more difficult to quit smoking?
- 10 A. Well, you know, I can't even -- I can't even
- 11 begin to think of -- of what one would do, so I'm not
- 12 quite sure what you're asking me.
- 13 Q. Well sir, you would agree it would be improper
- 14 for Brown & Williamson to do anything secretly to its
- 15 cigarettes to try and make it more difficult for a
- 16 smoker to quit smoking; right?
- 17 A. Yes. I --
- 18 Q. You know that most smokers want to quit, don't
- 19 you?
- 20 A. I think the general sort of survey information
- 21 you see would be, and it probably varies by country
- 22 and et cetera, et cetera, et cetera, but, yeah,
- 23 majority, over 50 percent --
- 24 Q. All right. And sir --
- 25 A. -- say they would like to.

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1 Q. You're aware that smokers continue to smoke --

2 MR. McCORMICK: Were you finished with your  
3 answer?

4 THE WITNESS: I think, yeah, the fact that  
5 they say they would like to.

6 Q. Now you're aware that smokers continue to use  
7 cigarettes even after they have been diagnosed with  
8 illnesses and have lost organs and have other serious  
9 reasons to quit; right?

10 A. I have seen that stated, yes.

11 Q. Now sir, you would agree that the standard  
12 smoking machine does not tell you what a human smoker  
13 will get when he smokes a particular brand of  
14 cigarettes.

15 A. Right. I think the Federal Trade Commission  
16 told us that when it established the method, it said  
17 it's not intended to.

18 Q. Well sir, did Brown & Williamson ever tell the  
19 people that bought its cigarettes that the  
20 smoking-machine data that it was providing in its  
21 ads, for example, did not really tell a person what a  
22 human smoker would get when they smoked a particular  
23 brand?

24 A. Well the Federal Trade Commission said that  
25 right up front. Now I -- One can argue whether the

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1 Federal Trade Commission should have kept on saying  
2 it, they didn't but --

3 Q. Sir, Brown & Williamson never told the smokers  
4 who were buying its cigarettes that the  
5 smoking-machine data that it was providing in its ads  
6 didn't really tell what a person, a human smoker  
7 would get when they inhaled a particular kind of  
8 cigarette, did they?

9 A. They made no representations of what it  
10 represented other than this was what came out of the  
11 cigarette when smoked according to the FTC method.

12 Q. All right. Now sir, you would agree that smoker  
13 compensation exists; right? It happens.

14 A. In different ways, at different times, and this  
15 being, as you know from all your reading, an enormous  
16 amount of work looking into the subject.

17 Q. And Brown & Williamson has known for years that  
18 smokers compensate in order to maintain a constant  
19 level of nicotine delivery; right?

20 A. Well, no. I mean, that's a hypothesis. There  
21 would be some evidence that would support that and  
22 then some evidence would be contradictory to it.

23 Q. Well Brown & Williamson had evidence that  
24 smokers compensated in order to maintain a particular  
25 level of nicotine; right?

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1 A. I certainly saw that for a time. When I've been  
2 looking at more recent literature I'm much less  
3 convinced than I used to be. I think that as  
4 cigarettes have changed over the years, so have  
5 people's smoking habits changed, and I can't remember  
6 if it was with you or with Mr. Motley [sp], I said  
7 the jury's still out --

8 (Interruption by the reporter.)

9 A. -- with you or with Mr. Motley [sp], there's  
10 still a whole lot of research going on in this area.  
11 But, I mean, the bottom line is while there is some  
12 short-term compensation, there doesn't seem to be  
13 long term, and when people smoke lower-delivery  
14 cigarettes, their intake, in general, is lower.

15 Q. Well sir, you would agree that if a smoker  
16 smokes a lower-delivery cigarette, in other words,  
17 one that is advertised as having low tar, and  
18 compensates unconsciously in order to try and  
19 increase or get back up to their normal nicotine  
20 intake, that that person is actually intaking or  
21 taking in more tar and nicotine than he or she  
22 normally would; right?

23 A. No.

24 Q. Well sir, isn't it true that smokers smoke for  
25 -- to maintain a pharmacological level of nicotine

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1 in their bodies?

2 A. Well a lot of people have thought that. As I  
3 say, I even thought that myself at one time but I --  
4 you know, the evidence doesn't really support that  
5 and it's a much oversimplistic view.

6 Q. Well that's a view that was commonly held within  
7 the B.A.T. group companies, wasn't it, sir?

8 A. It was held by many people, as I said, even by  
9 myself at one time, but I don't subscribe to it  
10 fully. The more work we do, in some ways the less we  
11 understand, but it's clear that this simplistic model  
12 of sort of topping up the fuel tank is not correct.

13 Q. Well sir, showing you what's been marked as  
14 Plaintiffs' Exhibit 608, this is a document entitled  
15 "HUMAN SMOKING BEHAVIOUR" that was written by a  
16 British-American Tobacco Company scientist; right?

17 A. Well let's zip through to the end. I don't  
18 know. It doesn't have a -- doesn't tell me. I don't  
19 know.

20 Q. All right. Well you understand that it came  
21 from British-American Tobacco Company; right?

22 A. Well actually there's -- without reading the  
23 text, there's nothing to identify it, where it has  
24 come from.

25 Q. All right. Well then let me show you what's

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1 been marked as Plaintiffs' Exhibit 1181 and see if  
2 that helps you identify Exhibit 608 as a document  
3 from British-American Tobacco Company.

4 Isn't Exhibit 608 actually an attachment to a  
5 letter that was sent to Brown & Williamson  
6 International Tobacco by someone at Brown -- at  
7 British-American Tobacco?

8 A. Yeah. Okay. And it says in the letter, "David  
9 Creighton from Group Research and Development Centre  
10 was the author of...this paper..."

11 Q. All right. David Creighton is a scientist  
12 within the Group Research and Development Centre at  
13 British-American Tobacco; right?

14 A. At that time he was. I'm not sure what he's  
15 doing nowadays.

16 Q. What was his specialty back then, sir?

17 A. Smoking behavior.

18 Q. All right. And he wrote this document about  
19 that very subject, didn't he?

20 A. That's what this letter tells us, yes.

21 Q. All right. And in fact you've reviewed this  
22 document in preparation for your deposition; right?

23 A. I don't think I did, no.

24 Q. All right. Well sir, directing your attention  
25 to the page -- the first exhibit I gave you that ends

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1 with Bates number 312. Dr. Creighton wrote in the  
2 middle of the paragraph or in the middle of the page,  
3 "It is generally accepted that a large number of  
4 habitual smokers are influenced in their smoking  
5 habit by the amount of nicotine that they draw from a  
6 cigarette. Over a period of time, during which they  
7 are learning how to smoke effectively - that is so  
8 that they do not make themselves feel ill, but do  
9 derive pleasure and satisfaction from smoking - they  
10 probably build up an association in their minds  
11 between the mouth sensations such as flavour,  
12 irritation and 'impact' and the amount of smoke that  
13 gives them the satisfactions of smoking. This is a  
14 similar mechanism to Pavlov's dogs"; correct?

15 A. That's what he says.

16 Q. All right. Now sir, what Dr. Creighton is  
17 talking about here is the mechanism by which a smoker  
18 associates a certain kind of sensations, including  
19 flavor, irritation and impact, with a given amount of  
20 nicotine; right?

21 A. No, I don't think that's -- He didn't say that,  
22 did he? He says that "...they build up an  
23 association in their minds between the mouth  
24 sensations such as flavour, irritation and 'impact'  
25 and the amount of smoke that gives them the

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1 satisfactions of smoking."

2       And here we, you know, again we come to one of  
3 those words that's so difficult to define because  
4 what does "satisfactions of smoking" mean other than  
5 the person that says "I'm satisfied"?

6 Q.   Well sir, Dr. Creighton goes on to note,  
7 "Nicotine is the most pharmacologically active  
8 constituent in cigarette smoke and is most probably  
9 the usual factor responsible for the maintenance of  
10 the smoking habit"; correct?

11 A.   That's what he says, yes.

12 Q.   Now sir, would you agree that nicotine is the  
13 most pharmacologically active constituent in tobacco  
14 smoke?

15 A.   Certainly in a total-mass basis, yes.

16 Q.   And would you agree with what Dr. Creighton  
17 wrote when he said it is most probable that nicotine  
18 is the most usual factor responsible for the  
19 maintenance of the smoking habit?

20 A.   Yes.

21 Q.   Would you agree that the smoker does build up a  
22 certain association with the level of nicotine intake  
23 when he or she puffs on a cigarette?

24 A.   Possibly, but I'm not a hundred percent  
25 convinced. But possibly, yes.

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1 Q. Well sir, would you agree that any health  
2 advantages that a low-tar cigarette might offer a  
3 smoker would be affected if that smoker compensates  
4 in order to make up for lower-nicotine delivery?

5 A. Well you're asking me to make a lot of  
6 assumptions there, but if you are making the  
7 assumption that health risk is related to amount of  
8 tar ingested, and if you are saying if a person  
9 smokes a lower machine tar number but gets more tar  
10 is there any change in health risk from the previous  
11 tar number, you would say no. That's, you know,  
12 assuming all your assumptions hold.

13 Q. Well sir, isn't it a fact that British-American  
14 Tobacco Company scientists concluded that the  
15 advantages of low-tar or low-retention cigarettes  
16 would be affected if smokers compensate in response  
17 to changes in cigarette design?

18 A. Well as I say, if all those assumptions hold,  
19 then yes.

20 Q. Sir, showing you what's previously been marked  
21 as Plaintiffs' Exhibit 953, this is a study entitled  
22 "COMPENSATION: A REVIEW, THE RELATIONSHIP BETWEEN  
23 COMPENSATION AND CHANGES IN CIGARETTE DESIGN, REPORT  
24 NO. RD.1725" that was issued in 1980 by Group  
25 Research and Development at Southampton; right?

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1 A. Right.

2 MR. McCORMICK: Excuse me. Let me  
3 interject, before we leave this other exhibit. I'm  
4 going to -- I'd like to interject an objection to the  
5 marking of Plaintiffs' Exhibit 608. I realize it  
6 wasn't marked in this deposition, but you've been  
7 interrogating this witness about a document marked as  
8 Plaintiffs' Exhibit 1181, which appears to contain  
9 the earlier Exhibit 608, and if Exhibit 1181 is in  
10 fact a authentic document, demonstrates that Exhibit  
11 608 is not, and indeed is an incomplete document.

12 I don't know what purpose you had in attempting  
13 to use just that portion of it, but we'd object to  
14 its having been marked, apparently, as an incomplete  
15 document.

16 BY MS. WIVELL:

17 Q. Sir, directing your attention -- I'm sorry.

18 Directing your attention back to Exhibit 953,  
19 this was a document, a report that was issued by  
20 Group Research and Development and then sent to Brown  
21 & Williamson; right?

22 A. Right.

23 Q. And the authors begin their summary of the  
24 report by saying, "The advantages of low-tar or  
25 low-retention cigarettes will be affected if smokers

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1 compensate in response to the changes in cigarette  
2 design"; right?

3 A. That's what it says, yes.

4 Q. Did Brown & Williamson ever tell the people to  
5 whom it advertised low-tar cigarettes that, oh, by  
6 the way, if you compensate you're going to lose any  
7 health advantage that these cigarettes might give  
8 you?

9 A. Well, we have never represented that cigarettes  
10 with lower Federal Trade Commission numbers are  
11 supposed to confer -- confer any health advantages.

12 Q. Well, sir, did Brown & Williamson ever tell the  
13 people to whom it marketed low-tar, or even low-gas  
14 cigarettes, that if they compensated, the advantages  
15 of these cigarettes would be affected?

16 MR. McCORMICK: Objection, that's asked and  
17 answered.

18 A. I believe I answered you, Ms. Wivell.

19 Q. They didn't tell them, did they, sir?

20 A. I said we never claimed any health advantages.

21 Q. My question didn't even mention "health  
22 advantages," sir. Let me repeat it so you can hear  
23 it again.

24 "...did Brown & Williamson ever tell the people  
25 to whom it marketed low-tar, or even low-gas

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1 cigarettes, that if they compensated, the advantages  
2 of these cigarettes would be affected?"

3 MR. McCORMICK: Do you want to clarify  
4 which advantages you're referring to, Ms. Wivell, if  
5 they weren't health advantages?

6 MS. WIVELL: My question is what my  
7 question is, sir.

8 A. Okay. Let me take it in two parts. The general  
9 health advanta -- did you say advan -- Sorry, getting  
10 confused.

11 Whatever general advantages you are referring  
12 to, I mean, we didn't make any representations of  
13 cigarettes overall. The only instance I can think of  
14 was in some FACT advertising where they're talking  
15 about the filter lowering the levels of certain  
16 irritating compounds. No, we did not say in that  
17 advertisement, if you smoke it -- puff it harder  
18 you'll get just as much irritating compounds as you  
19 -- without our special filter, so in that particular  
20 instance we didn't, no.

21 Q. All right. But this particular document,  
22 Exhibit 953, talks about the advantages in the  
23 beginning of that sentence; right?

24 A. Well, I mean, that is what that sentence  
25 states. At the moment, I don't know what that

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1 sentence means.

2 Q. Well sir, isn't it true that Brown & Williamson  
3 marketed low-tar, low-retention cigarettes with the  
4 implied health warning, or the implied suggestion  
5 that those cigarettes were healthier for smokers?

6 A. We marketed lower-tar cigarettes in response to  
7 public demand which was basically driven by health  
8 authorities.

9 Q. So are you denying that Brown & Williamson's  
10 marketing implied or suggested health effects for  
11 low-tar cigarettes?

12 A. What I'm saying is that we never represented  
13 that there would be any health advantages to a person  
14 using a lower-tar cigarette compared to a normal-tar  
15 cigarette.

16 Q. Sir, isn't it true that Brown & Williamson  
17 featured prominently in its ads lower-tar claims for  
18 its cigarettes in order to imply or suggest health  
19 effects for those cigarettes?

20 A. Boy, we could argue about this forever but, I  
21 mean, the basic fact is we did not make any health  
22 representation. Health authorities, particularly  
23 prior to the late '70s when they decided no cigarette  
24 was a good cigarette, were encouraging tobacco  
25 companies to market lower-tar cigarettes, and that's

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1 exactly what all the tobacco companies were doing.

2 Q. Well sir, if there weren't any suggested or  
3 implied health claims or health effects, why did  
4 Brown & Williamson put its tar advertising so  
5 prominently, its tar figures so prominently in their  
6 ads?

7 A. Because consumers, hearing what health  
8 authorities had said, were -- many of them were  
9 electing to buy lower-tar cigarettes.

10 Q. And sir, wasn't it Brown & Williamson's purpose  
11 to try and prevent smokers who had an intention to  
12 quit smoking to instead detour to these low-delivery  
13 cigarettes?

14 A. No. I mean, a person is free to quit smoking  
15 whenever they choose to.

16 (Discussion off the stenographic record.)

17 BY MS. WIVELL:

18 Q. Sir, showing you what's previously been marked  
19 as Plaintiffs' Exhibit 949, this is a document that  
20 you received from Dr. E. F. Litzinger entitled  
21 "SOCIAL SMOKING STUDIES"; right?

22 A. I was copied on it, yes.

23 Q. All right. Could you please read aloud for the  
24 ladies and gentlemen of the jury the first paragraph  
25 of that document.

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1 A. "We search for answers to the questions 'Why do  
2 people smoke?' and 'Why do people stop smoking?' to  
3 provide us with direction in developing new  
4 products. Perhaps answers to another question 'How  
5 do people stop smoking?' could lend insight into the  
6 creation of new products. Having answers to this  
7 latter question we might then design products to  
8 'intercept' people who are trying to give up  
9 smoking."

10 Q. Let me repeat my question, sir.

11 Isn't it true that Brown & Williamson's attempt  
12 to produce low-tar cigarettes was an attempt to try  
13 and get people to quit smo -- to detour away from  
14 quitting smoking?

15 A. No, Litzinger here is looking for ways of  
16 developing some new products that might interest  
17 people. And we go on to the next paragraph, he's  
18 talking about something that actually could very well  
19 help someone to quit, because it would give them a  
20 little dial on their cigarettes --

21 (Interruption by the reporter.)

22 A. -- dial, so they could -- so they could keep on  
23 dialing down the amount and, in theory, they could  
24 wean themselves off.

25 Q. Sir, isn't it true that Brown & Williamson

1 looked at low-tar, low-delivery cigarettes as a way  
2 to stem the continuing decline in people who were  
3 quitting smoking?

4 A. Well I don't know. You may have a document that  
5 says that, but I -- you know, I'll make my point. If  
6 people want to smoke, they'll smoke. If they don't  
7 want to smoke, they don't smoke.

8 Q. Sir, directing your attention to point number 3  
9 on the second page of what has been marked as Exhibit  
10 948, would you please read the first sentence of  
11 point number 3 to the ladies and gentlemen of the  
12 jury.

13 MR. McCORMICK: Let me see it. Just a  
14 minute.

15 Are you planning to identify this for the  
16 record, Ms. Wivell, as to what this is or where it  
17 came from?

18 MS. WIVELL: After he reads the sentence to  
19 the jury, that would be fine.

20 A. It was the -- On page 2, the one that was number  
21 3.

22 Q. Point 3, yes, sir.

23 A. Point 3. "To stem the continued decline in  
24 smoking incidence, the industry must rapidly move to  
25 a point where it can address cigarettes in a totally

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1 positive light. Low gas will help in terms of  
2 reducing personal concerns of active and passive  
3 smokers, yet the consumption of low gas brands will  
4 emerge as a negative self-statement with continued  
5 personal consumption."

6 Q. Now sir --

7 A. Sorry, Ms. Wivell, do you want me to read the  
8 whole thing?

9 Q. No, that's fine.

10 A. Yeah.

11 Q. That document is a document that concerns the  
12 hi-fi market; isn't that true?

13 A. Well, I don't know, because it's a very poor  
14 copy and we can't read the preceding two paragraphs  
15 and --

16 Q. All right. But we can read the first paragraph  
17 of the document, can't we, sir?

18 A. Well it's about something called a Purite  
19 filter, and it says that it is a situation analysis.  
20 Do you want me to read that?

21 Q. Well sir, it refers to the hi-fi market, doesn't  
22 it?

23 A. It says "The move to hi-fi cigarettes" -- I  
24 think it's a typo, it says "in continuing," but I  
25 guess it means is continuing.

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1 Q. Now sir, "hi-fi cigarettes" are high-filtration  
2 cigarettes; right?

3 A. That was a term used by the marketing people,  
4 yeah.

5 Q. Now sir, turning back to the subject of  
6 nicotine, you would agree that approximately 90  
7 percent of inhaled nicotine is absorbed by the body,  
8 wouldn't you?

9 A. Yeah, once it's inhaled most of it seems to be  
10 absorbed.

11 Q. And sir, you would agree that smokers can  
12 control their nicotine uptake; correct?

13 A. Well, in the sense that they can either take  
14 more puffs or less puffs, put the cigarette out, take  
15 bigger puffs. I don't know that they're consciously  
16 controlling their nicotine uptake, but their nicotine  
17 uptake will change according to how many puffs they  
18 take on the cigarette.

19 Q. And sir, you would agree that for most of the  
20 years that you were at Brown & Williamson it was  
21 Brown & Williamson's working hypothesis that the  
22 important factor in a cigarette was not the amount of  
23 nicotine in the smoke, but rather the amount of free  
24 nicotine in the smoke which determined the degree of  
25 smoke impact; right?

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1 A. I think we have said too many things all at  
2 once. I'll agree to part of it, which is that this,  
3 quote, free nicotine -- and I'll have to explain a  
4 bit later on on this, is a misnomer -- but there was  
5 a working hypothesis that impact, the immediate  
6 sensation, is somehow related to something called  
7 either free nicotine or extractable nicotine or  
8 smoking pH, but yes, something associated along those  
9 lines.

10 Q. Well sir, when we first chatted back earlier in  
11 this year in June I asked you about a document that  
12 said: "The important factor, though, is not the  
13 amount of nicotine in the smoke, per se, but rather  
14 it is the amount of free nicotine in the smoke which  
15 determines the degree of smoker impact," and you  
16 answered "yes"; right?

17 And then I asked you: "And that was a working  
18 hypothesis you had during the entire time you were at  
19 Brown & Williamson; isn't that true, sir?" and you  
20 answered yes. I'm sorry, you answered, "That's  
21 true."

22 Isn't that correct?

23 A. Let's have a look.

24 This first question you asked me goes on to say  
25 -- So I'm -- The first "yes" agrees that you were

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1 quoting from whatever we were looking at.

2 Q. And the second "yes" agrees that that statement  
3 that I quoted out of the document was a working  
4 hypothesis the entire time you were at Brown &  
5 Williamson; isn't that true?

6 A. Which determines the degree of smoke impact, the  
7 immediate sensation, yeah.

8 Q. Now sir, you would agree that the pH of  
9 cigarette smoke is critical in determining the amount  
10 of nicotine which is absorbed by the smoker's body;  
11 right?

12 A. No, not at all.

13 Q. Well sir, isn't it true that the pH of smoke is  
14 important and becomes critical if sufficient amounts  
15 of nicotine are to be absorbed by the lungs?

16 A. No.

17 Q. Did you attend a conference, a scientific  
18 research group conference in Montreal in August of  
19 1986?

20 A. I don't think so but, I mean, if I did, I did,  
21 but I don't think I did.

22 (Plaintiffs' Exhibit 4457 marked for  
23 identification.)

24 BY MS. WIVELL:

25 Q. Sir, showing you what's been marked as

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1 Plaintiffs' Exhibit 4457, this is a "Note on  
2 recommendations for future research interests given  
3 at the 2nd meeting of the Scientific Research Group -  
4 Montreal, August 6-8, 1986"; right?

5 A. Okay. And let me correct something I -- I said  
6 earlier. Because it says "Montreal," and that wasn't  
7 ringing any bells with me, I think I attended this  
8 meeting and the reason I said "no" is because it was  
9 some -- someplace outside of Montreal. I mean, it  
10 was in Canada, but I can't remember what it was  
11 called so --

12 Q. You attended the meeting that's referred to in  
13 Exhibit 4457; right?

14 A. I attended a meeting up in Canada sometime  
15 around that time so it may very well have been this  
16 one.

17 Q. Now sir, you were Brown & Williamson's  
18 representative on the Scientific Research Group,  
19 weren't you?

20 A. You know, at times I was and at times I wasn't  
21 and that's -- I'm struggling. I think it was likely  
22 I attended this one, but I'm not -- still not a  
23 hundred percent sure.

24 Q. Now sir, there is a portion of this document  
25 that addresses the pharmacokinetics of nicotine;

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- 1 right?
- 2 A. Yes.
- 3 Q. And it talks there about absorption --
- 4 A. Right.
- 5 Q. -- at the second page of Exhibit --
- 6 A. Right.
- 7 Q. -- 4457; right?
- 8 A. Yeah, yeah.
- 9 Q. You have to let me finish, sir.
- 10 Correct?
- 11 A. Sorry. "Correct" that I have to let you
- 12 finish?
- 13 Q. No, correct that there's a portion of the
- 14 document that refers to pharmacokinetics of
- 15 nicotine.
- 16 A. Yes.
- 17 Q. And there is a brief summary of nicotine
- 18 pharmacokinetics there; right?
- 19 A. Yes.
- 20 Q. By the way, what do "pharmacokinetics" mean?
- 21 A. The rate at which nicotine would be absorbed and
- 22 subsequently metabolized.
- 23 Q. All right. And sir, under "Absorption" it says,
- 24 "The pH of...smoke is critical in determining the
- 25 amount of nicotine absorbed", doesn't it?

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1 A. Well that's what it says but it's wrong, and I'm  
2 really surprised.

3 Q. And it goes on to say, "The inhalation of the  
4 smoke then becomes critical if" sufficient "amounts  
5 of nicotine are to be absorbed by the lungs";  
6 correct?

7 A. Yes.

8 Q. And it talks about absorption of nicotine via  
9 the lungs being almost as efficient as intravenous  
10 administration of nicotine; right?

11 A. Yes.

12 Q. Now you would agree that nicotine crosses the  
13 blood -- I'm sorry. Strike that.

14 You would agree that nicotine delivered by a  
15 cigarette puff crosses the blood-brain barrier;  
16 right?

17 A. A substantial portion of it does, yes.

18 Q. Now this document goes on to talk about how fast  
19 that nicotine from a puff of cigarettes travels from  
20 the lungs via the bloodstream to the brain; right?

21 A. Guide me. I'm sure it does.

22 Q. If you turn to the next page under  
23 "Distribution."

24 A. Yeah, yeah.

25 Q. You see that there, don't you, sir?

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- 1 A. Sorry. What was it we were saying?
- 2 Q. Sir, there in the third page --
- 3 A. Oh, yeah. About eight seconds, and the
- 4 extremities about 20 seconds. Okay. Yep.
- 5 Q. All right. And just so we're clear here, this
- 6 document relates that nicotine reaches the brain in
- 7 about eight seconds; right?
- 8 A. Right.
- 9 Q. Now sir, you would agree that nicotine does get
- 10 from the lungs into the brain in about eight seconds
- 11 after a cigarette smoker takes a puff of smoke.
- 12 A. That's apparently what all the evidence is
- 13 showing, yes.
- 14 Q. Now sir, you would agree that it has been known
- 15 within Brown & Williamson for years that the kick of
- 16 a cigarette was due to the concentration of nicotine
- 17 in the bloodstream.
- 18 A. Oh, I'm not quite sure what we mean by the
- 19 "kick" of a cigarette.
- 20 Q. Well sir, isn't it true that the sensation that
- 21 a smoker gets as a result of taking a puff of
- 22 cigarette smoke is often referred to within Brown &
- 23 Williamson as the "kick" of a cigarette?
- 24 A. I'm trying to think. There's the immediate
- 25 sensation on inhalation which is generally referred



1 to as impact. Is that what you're meaning by  
2 "kick"?

3 Q. Well, sir, let's take a look at what some of the  
4 Brown & Williamson scientists or -- I'm sorry --

5 Let's take a look at what some of the  
6 British-American Tobacco scientists were referring  
7 to.

8 Let me show you what's been marked as  
9 Plaintiffs' Exhibit 332. This is a document that  
10 begins with the Bates number 100059066; right?

11 A. Right.

12 Q. And this is a document dated 1964.

13 A. Yes.

14 Q. And it says on the second page of the document,  
15 "There seems no doubt that the kick," in quotes, "of  
16 a cigarette is due to the concentration of nicotine  
17 in the blood-stream..." Have I read correctly so  
18 far?

19 A. Yeah, you're reading what -- I mean, you're  
20 reading correctly what the author writes, and the  
21 "kick" is in quotes, and this is an English  
22 document, and even English by birth I'm still not a  
23 hundred percent sure what he's meaning.

24 Q. All right. Well sir, isn't it true that it's  
25 been known throughout the B-A-T group that the kick

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1 or the impact of a cigarette is due to the  
2 concentration of nicotine in the bloodstream?

3 MR. KOMAR: Object to form.

4 MR. McCORMICK: Can I hear that again,  
5 please? I'm sorry.

6 (Record read by the reporter.)

7 A. We don't think the impact of a cigarette has  
8 anything to do with the nicotine concentration in the  
9 bloodstream.

10 Q. Well this document goes on to say, "There seems  
11 no doubt that the 'kick' of a cigarette is due to the  
12 concentration of nicotine in the blood-stream which  
13 it achieves and this is a product of the quantity of  
14 nicotine in the smoke and the speed of transfer of  
15 that nicotine from the smoke to the blood-stream";  
16 correct?

17 A. Well this is something that was written in  
18 1964. I kind of half see what he's getting at but  
19 I'm not sure that I agree with what he's saying. And  
20 I think it's because we don't know what he's meaning  
21 by "kick" because it's not, at least in my mind, a  
22 common term --

23 Q. Well sir --

24 A. -- and --

25 Q. I'm sorry.

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1 A. See, there's this thing that you see from time  
2 to time in here, speed of transfer --

3 (Interruption by the reporter.)

4 A. The statement that we see from time to time in a  
5 number of documents about the speed of transfer of  
6 nicotine from smoke to the bloodstream -- and you'll  
7 have to bear in mind that I am not a pharmacologist  
8 or a physiologist -- but as I understand it, once  
9 smoke is inhaled, all that is inhaled, irrespective  
10 of pH, most all that's inhaled is absorbed in the  
11 lungs and that it's transferred at whatever rate it's  
12 going to be transferred to the bloodstream, which is  
13 controlled more by the body fluids in that part of  
14 anything rather than the properties of the smoke, per  
15 se.

16 Q. Well sir, keeping in mind that -- I'm sorry.  
17 Strike that.

18 You said you're not a pharmacologist; right?

19 A. Correct.

20 Q. And you know that Brown & Williamson has  
21 documents which address the speed at which nicotine  
22 is absorbed by the body; right?

23 A. Yeah, I -- I said that there are a number of  
24 documents which refer to the speed of uptake, but I  
25 -- I don't think there's any, you know, good

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1 evidence to show there's any difference in speed of  
2 uptake once nicotine is inhaled.

3 Q. Well that's not your area of professional  
4 competence, is it, sir?

5 A. No, but as I say, I can read just as well as you  
6 and I don't recollect seeing anything in the  
7 scientific literature, and I may be wrong, but I  
8 don't recollect seeing anything that really does  
9 influence the speed of uptake once it's inhaled.

10 Q. Have you read the document "The Fate of Nicotine  
11 in the Body" which British-American Tobacco Company  
12 provided to Brown & Williamson back in the '60s?

13 A. Is this a Battelle report?

14 Q. Yes, sir.

15 A. If you let me see it, then I can probably tell  
16 you how recently I read it.

17 Q. Well can you remember ever reading a document  
18 entitled "The Fate of Nicotine in the Body"?

19 A. Well there may be several documents with that  
20 title, that's why I'm not sure that I've read that  
21 particular one.

22 Q. Well sir, let me show you this document that  
23 refers to "The Fate of Nicotine in the Body," it's  
24 Exhibit 717. For the record, the Bates number is  
25 536480910; right?

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1 A. Right.

2 Q. And this document starts out by referring to the  
3 document entitled "The Fate of Nicotine in the Body";  
4 right?

5 A. Right.

6 Q. And it goes on to say, in the very simplest and  
7 incomplete language, this article gives the  
8 background from which the following can be deduced.  
9 Have I read correctly so far?

10 A. Yes.

11 Q. And it says, "Nicotine is absorbed by the body  
12 in varying amounts depending on smoking habits and  
13 the body chemistry of the individual. Other factors  
14 are the more rapid absorption of the free alkaloid  
15 than the salts"; correct?

16 A. Yes.

17 Q. It goes on to say, "Its movement is through the  
18 cell walls of the respiratory passage or the stomach  
19 into the blood stream"; right?

20 A. Right.

21 Q. Now you understand that "free alkaloid" is a  
22 reference to free or unbound nicotine there; right?

23 A. Yes.

24 Q. All right. And sir, isn't it true that Brown &  
25 Williamson and British-American Tobacco had

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1 scientific evidence that unbound nicotine affected  
2 the body faster and was absorbed faster than bound  
3 nicotine?

4 A. Well that's -- let's sort of take -- break it  
5 down in several bits.

6 Nicotine is a base, and when people refer to  
7 "free nicotine" they're referring to the  
8 unprotonated form, and certainly if I put a drop of  
9 free nicotine on my skin it would be absorbed much  
10 more rapidly than if I put a drop of nicotine citrate  
11 on my skin, but when we get down to the very small  
12 concentrations of nicotine in the aerosol particles  
13 that somebody inhales and subsequently gets deposited  
14 in the lung, I think in general this little tiny  
15 particle is spread over this area the size of a  
16 tennis court, it doesn't -- doesn't make any -- any  
17 difference, they get -- they get absorbed real  
18 rapidly.

19 Q. Well in expressing that opinion, sir, did you  
20 have in mind the results of a study entitled "Further  
21 Work on Extractable Nicotine" that was done at the  
22 Group Research and Development Centre of  
23 British-American Tobacco Company and shared with  
24 Brown & Williamson?

25 A. There was a scientist called Backhurst who did a

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1 lot of work in this area. He developed some  
2 hypothesis related to speed of absorption, I think  
3 then subsequently he said he needed to do some more  
4 work, and I think he did some more work and  
5 eventually decided it wasn't the speed of  
6 absorption. That's my overall recollection of the  
7 area.

8 Q. Well sir, can you direct me to a particular  
9 document that basically retracts the work that Dr.  
10 Backhurst had done and provided to Brown & Williamson  
11 that is entitled "Further Work on Extractable  
12 Nicotine"?

13 A. Not here in this room. I believe one exists.

14 Q. But you have seen the research work that Dr.  
15 Backhurst put together that has been marked as  
16 Plaintiffs' Exhibit 966; right?

17 A. Yes.

18 Q. All right. And it -- That work concludes that  
19 the form of nicotine affects the rate at which it is  
20 absorbed in the body; right?

21 A. Well I'm not sure it concludes. He says it --  
22 it's his working hypothesis, he says, "Further  
23 experimental work will be undertaken in an effort to  
24 confirm the validity..."

25 Q. And it -- he also has demonstrated that it -- or

1 concluded that it appears that "increased smoker  
2 response is associated with nicotine reaching the  
3 brain more quickly"; isn't that true?

4 A. Sorry. Where are we?

5 Q. The middle of the "SUMMARY AND CONCLUSIONS"  
6 page, sir.

7 A. He says, "It would appear...the increased smoker  
8 response is associated with nicotine reaching the  
9 brain more quickly," but he -- I mean before that he  
10 says "The reasons for the relationship between smoker  
11 response and 'extractable' nicotine content of the  
12 smoke remain obscure. Several possible explanations  
13 have been considered," and so on and so on. So, I  
14 mean, I wouldn't say he's concluded. I would say  
15 he's struggling to find some answers.

16 Q. And sir, he refers to a previously -- a previous  
17 report in which it was shown that the reaction of a  
18 smoker to the strength of a cigarette was correlated  
19 with the weight of extractable nicotine in the smoke  
20 rather than the total nicotine in the smoke; correct?

21 A. Yeah, and if I -- I stand to be corrected by  
22 you, but I believe here when they're refer to smoke  
23 -- to "strength" of the smoke they're referring to  
24 the impact sensation.

25 Q. Well sir, the authors of this document, Exhibit

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1 966, concluded that "Rapid absorption of vapour phase  
2 nicotine could explain a rapid transfer of nicotine  
3 to the brain"; right?

4 A. Well rapid absorption of vapor phase nicotine  
5 could explain a rapid transfer of nicotine into the  
6 brain, but I -- at the pH of cigarette smoke there  
7 isn't any vapor-phase nicotine.

8 Q. Well sir, isn't it true that Brown & Williamson  
9 and the British-American Tobacco Company operated  
10 under the assumption for years that increased smoker  
11 response depended on a higher amount of extractable  
12 nicotine reaching the lungs and therefore reaching  
13 the brain more quickly?

14 A. Well, if some people did, they were wrong. I  
15 don't think that was the majority view.

16 Certainly this extractable nicotine correlated  
17 very well with the impact sensation, that's the catch  
18 in the back of the throat when they inhale, and if  
19 you remember we talked quite a lot last time I was  
20 with you about how this extractable nicotine is -- is  
21 a, if you like, a test-tube method which is somewhat  
22 removed from the actual smoking experience and  
23 sensation.

24 Q. Now sir, isn't it true that it was a working  
25 hypothesis at Brown & Williamson for almost the

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1 entire time you were there that if the pH of smoke  
2 increased and became more alkaline, the impact  
3 sensation would also increase?

4 A. Yes. I think that's more than a working  
5 hypothesis, if I heard you correctly, as smoke pH  
6 increased, the impact sensation increased.

7 Q. And sir, isn't it true that Brown & Williamson  
8 and British-American Tobacco Company continued to  
9 look at and work at the issue -- work on the issue of  
10 the relationship between smoke pH and extractable  
11 nicotine?

12 A. Yes.

13 Q. And you would agree that Brown & Williamson  
14 worked on and looked at the issue of whether smoke pH  
15 and extractable nicotine was important to smoker  
16 response to cigarettes; right?

17 A. Yeah, in terms of this impact sensation, which  
18 is something you can measure with smoke panels.

19 Q. Well sir, it's more than impact sensation, it's  
20 smoker response, isn't it?

21 A. Well that's why I was careful to say "impact  
22 sensation" because "impact sensation" I don't think  
23 we have any disagreements on.

24 Whether higher smoke pH gave greater smoker  
25 satisfaction, however we define it, I don't -- I

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1 mean, that -- that doesn't bear out, doesn't hold  
2 water, doesn't stand up.

3 Q. Well sir, let me show you what's been marked  
4 previously as Plaintiffs' Exhibit 962. This is a  
5 scientific report that was issued by Dr. Sanford;  
6 correct?

7 A. Yeah.

8 Q. And it looks at whether -- I'm sorry.

9 This particular document studied whether smoke  
10 pH influenced smoker response; right?

11 A. Let's see. The title is the "...AQUEOUS EXTRACT  
12 pH AND EXTRACTABLE NICOTINE STUDIES OF MAJOR  
13 CIGARETTE BRANDS FROM BROWN & WILLIAMSON..." Guide  
14 me where they're talking about response. Okay, the  
15 extract, here.

16 Q. Well the first sentence, sir.

17 (Interruption by the reporter.)

18 (Discussion off the stenographic record.)

19 A. The abstract states that: "The results  
20 presented here are products of an effort to  
21 understand the origins of smoke pH and the extent of  
22 its influence on smoker response."

23 Q. Now this work was done because data seemed to  
24 indicate a demand in the U.S. domestic market for  
25 brands which had a higher extractable nicotine

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1 delivery; right?

2 MR. McCORMICK: Are you asking him if  
3 that's what the document says, Ms. Wivell?

4 A. The document says in the second paragraph of the  
5 summary, "The data seem to indicate a demand in the  
6 domestic market for those brands in the higher  
7 extractable nicotine range."

8 Q. And sir, it's true, isn't it, that the work that  
9 Brown & Williamson had done looking at other  
10 cigarettes and other cigarette sales, indicated to  
11 Brown & Williamson that those brands which seemed to  
12 be more successful were brands which had a higher  
13 extractable nicotine range; correct?

14 MR. McCORMICK: Is that -- Again, are you  
15 asking him if that's what the document says?

16 If you won't clarify that, I'll object to the  
17 question on the grounds that there's no foundation  
18 for it. And if you are asking him that, if you could  
19 point to the place where it says that, it would  
20 facilitate matters.

21 Q. Do you have the question in mind, sir?

22 A. Well, I think so. This work was done by a  
23 couple of chemists in an analytical group in 1969,  
24 and they looked at a few cigarettes and, for example,  
25 I'm just going to quote at random from page 4.

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1           "Those brands in the pH range 6.0 to 6.3  
2   (except for the Lorillard brands), B&W and Philip  
3   Morris, have an average extractable nicotine of 0.38  
4   milligrams per cigarette and have shown the greatest  
5   sales fluctuation activity and, with the exception of  
6   VICEROY, with a general trend toward increasing  
7   sales."

8           So if you take out "Lorillard" and take out  
9   "Viceroy," it doesn't seem to leave a whole lot. I  
10   mean certainly this was a hypothesis these guys were  
11   working on, and I don't dispute that we worked on the  
12   hypothesis that increasing the extractable nicotine  
13   might make our cigarettes more preferred. In fact it  
14   didn't, but that was certainly a hypothesis we worked  
15   on.

16   Q.    Sir, it was a hypothesis that you worked on up  
17   to and including the time you retired from Brown &  
18   Williamson; isn't that true?

19   A.    If not when I retired, probably close, sure.

20   Q.    And it was a hypothesis that was a working  
21   hypothesis at Brown & Williamson up till the day the  
22   FDA asserted authority over cigarettes as drugs;  
23   isn't that true?

24   A.    You know, I can't speak for that because I'd  
25   been gone for I guess a year and a half and the last

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1 couple of years I was at Brown & Williamson I wasn't  
2 in the mainstream of product development either but,  
3 you know, for a considerable period of time it was  
4 thought that it would be one of the factors involved  
5 in preference. By no means total, but a factor.

6 Q. And sir, didn't we chat about the FDA's affect  
7 on the change of thinking at Brown & Williamson in  
8 our last deposition?

9 A. Well I'm not sure that the FDA changed Brown &  
10 Williamson's thinking, it may have caused them to  
11 review some old documents and find out the facts that  
12 were incorrect in them.

13 Q. Sir, the FDA proposed regulating cigarettes as  
14 drugs in approximately late 1994; right?

15 A. Yeah.

16 Q. And up to the time that the FDA proposed to  
17 regulate cigarettes as drugs, Brown & Williamson  
18 operated under the assumption that increased nicotine  
19 -- I'm sorry -- that increased pH of smoke would, in  
20 turn, deliver more unbound or unprotonated nicotine  
21 to the smoker; right?

22 A. No, you know, that wasn't -- When doing product  
23 development you're trying to find a cigarette that  
24 people like the taste of. There were some people  
25 working in product development that thought this was

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1 an important part of it, there were others that --  
2 working in product development never, ever measured  
3 smoke pH or gave it a second thought. So no, I don't  
4 think you can characterize Brown & Williamson's  
5 product development as being that at all.

6 Q. Who's Tilford Riehl?

7 A. He's currently the vice-president of R&D at  
8 Brown & Williamson.

9 Q. And who is D. M. Holmes?

10 A. He was a scientist that worked in product  
11 development for a period of time at Brown &  
12 Williamson. He subsequently left.

13 Q. Now sir, I'm going to show you what's previously  
14 been marked as Plaintiffs' Exhibit 968. This is a  
15 memo that you and I chatted about during your first  
16 deposition; right?

17 A. I don't remember this one, but we chatted about  
18 quite a lot, so could well have done.

19 Q. All right. Well Exhibit 968 --

20 A. Yeah.

21 Q. -- for the record begins with Bates number  
22 650511308; right?

23 A. Right.

24 Q. And it says in the third paragraph, "The amount  
25 of free nicotine in smoke is thought related to

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1 cigarette impact and immediate pain sensation  
2 experienced upon inhalation, therefore free nicotine  
3 is a likely contributor to cigarette strength and  
4 short-term smoker satisfaction.

5 Long-term...satisfaction is, at least in part,  
6 derived from the total nicotine delivery (free and  
7 bound)"; right?

8 MR. McCORMICK: "Right" that that's what it  
9 says?

10 A. Yes, that's what it says.

11 Q. Now sir, isn't it true that that particular  
12 statement was the working hypothesis of Brown &  
13 Williamson's scientists who were addressing the issue  
14 of increased nicotine transfer in cigarettes up to  
15 the day that the Food and Drug Administration in this  
16 country asserted authority over cigarettes as drugs?

17 A. Well and let's take it in two parts. I don't --  
18 And we're trying to save time down the road.

19 I don't think there's any disagreement in this  
20 impact sensation, this short-term sensation is  
21 somehow associated with nicotine in the pH of smoke.  
22 In fact that smoke pH there isn't any free nicotine.  
23 But associated with nicotine smoke pH there's enough  
24 empirical data to show that this impact sensation is  
25 correlated with those, but I say it's not free

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1 nicotine because it just doesn't exist at that smoke  
2 pH.

3 (Interruption by the reporter.)

4 THE REPORTER: We have to go off the record  
5 and change tape.

6 (Recess taken from 4:12 to 4:21 p.m.)

7 BY MS. WIVELL:

8 Q. Sir, you would agree that in 1989 --

9 MR. McCORMICK: Excuse me, I'm sorry. The  
10 witness was in the middle of an answer at the end of  
11 the last -- right before we broke.

12 Could I ask the court reporter to read the  
13 partial answer.

14 (Record read by the reporter.)

15 MR. McCORMICK: Is there anything you  
16 wanted to add to the discussion of that paragraph?

17 THE WITNESS: Well that was the -- I  
18 believe Ms. Wivell had asked me about both sentences  
19 in the paragraph and so far I'd only responded to the  
20 first sentence. If she wants me to respond to the  
21 second or third I will, or we can -- because I've  
22 really forgotten what your question was.

23 Q. All right. Well let me do it this way.

24 Sir, in 1989 you hosted a conference for  
25 representatives of British-American Tobacco companies

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1 from throughout the world; right?

2 A. Likely.

3 Q. Well you hosted an Ammonia Technology

4 Conference; right?

5 A. Okay.

6 Q. Didn't you?

7 A. Well, I don't have perfect recall. If you show

8 me a document it's so much easier for me.

9 Q. Sir, showing you what's been marked as Exhibit

10 183, this is a copy of the "Ammonia Technology

11 Conference Minutes" from the conference you hosted in

12 Louisville in 1989; right?

13 A. Right.

14 Q. And you and I have chatted about this document

15 at length before, haven't we?

16 A. I don't remember the length, but we talked about

17 it I'm sure.

18 Q. All right. And one of the things that Brown &

19 Williamson has done to its cigarettes that it sold in

20 Minnesota, it has applied ammonia technology; right?

21 A. To most of its brands sold throughout the United

22 States, yes.

23 Q. Which of its brands sold throughout the United

24 States has Brown & Williamson applied ammonia

25 technology to?

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1 A. Well, it would depend on the year and the brand  
2 and Brown & Williamson could supply you with the  
3 detailed information, but roughly speaking around  
4 this sort of period of time most of the non-menthol  
5 brands, most but not all, had it. In later years  
6 probably virtually all the non-menthol brands had  
7 it. I'm just not sure the state in the menthol  
8 brands because it was not in them or in them very  
9 little at the time of my retirement and I'm just not  
10 quite sure what the situation is as of today.

11 Q. When did Brown & Williamson begin using ammonia  
12 technology for its marketed cigarettes?

13 A. Again that's a matter of record, but I would say  
14 '83, '84 we were probably beginning to try.

15 Q. All right.

16 A. And let me just back up slightly. If we're  
17 talking about ammonia technology in very broad terms,  
18 which would even include the use -- addition of  
19 diammonium phosphate as part of the casing, I think  
20 that was in the -- some of the products we sold  
21 internationally, such as Kent, from the time we  
22 acquired that brand from Lorillard.

23 Q. All right. Well sir, diammonium phosphate has  
24 also been used in cigarettes that have been sold  
25 domestically here in the United States by Brown &

1 Williamson; right?

2 A. Yes.

3 Q. When did diammonium phosphate begin to be used  
4 by Brown & Williamson in cigarettes that it sold here  
5 in Minnesota?

6 A. Well, again it's a matter of record but I'm  
7 saying around '83, '84 we probably started putting  
8 diammonium phosphate into some of the reconstituted  
9 tobacco.

10 Q. Now diammonium phosphate is only one method that  
11 Brown & Williamson has utilized to ammoniate its  
12 marketed cigarettes; right?

13 A. Well "ammoniate" may be a word we've used, but  
14 the -- "ammonia chemistry" I think is a better word  
15 to use, that there is certainly more -- more ways  
16 other than adding diammonium phosphates to cigarettes  
17 to use ammonia in processing of tobacco materials to  
18 produce flavorful compounds.

19 Q. Sir, one of the reasons that Brown & Williamson  
20 has used diammonium phosphate and other ammonia  
21 compounds, including urea, is to improve nicotine  
22 transfer of its cigarettes; isn't that true?

23 A. Well, I think some people thought that that  
24 occurred, but in fact I -- more definitive in recent  
25 work shows it doesn't have any -- any effect unless

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1 it's through slowing down the burn rate and therefore  
2 increasing the puff number but, I mean, it's a  
3 marginal effect.

4 Q. Well sir, these notes, Exhibit 187 or, I'm  
5 sorry.

6 These notes, Exhibit 183, of the ammonia  
7 conference indicate that at the time of this  
8 conference the people who collected together to  
9 attend were told by Brown & Williamson employees that  
10 one of the effects of ammonia technology on  
11 cigarettes was to improve nicotine transfer; right?

12 A. Yeah, and -- and it does, not to any great  
13 degree. It's -- It does, but it's inconsequential.

14 Q. Well sir, we have looked -- I'm sorry. Strike  
15 that.

16 Can you turn to the page of Exhibit 183 that  
17 ends with Bates number 049. There is a chart that  
18 was presented to the conference attendees concerning  
19 nicotine efficiencies versus CPCL content; right?

20 A. Right.

21 Q. CPCL at Brown & Williamson contains ammonia,  
22 doesn't it?

23 A. Yeah.

24 Q. And sir, this document shows that nicotine  
25 transfer essentially shoots off the top of the chart

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1 almost when CPCL content of cigarettes is increased;  
2 right?

3 A. Okay. We're looking at, as the way the scale of  
4 the graph is is from 15 percent to 18.5, it's not  
5 like it's going from zero to a hundred so, you know,  
6 normally it would make -- say 15 percent transfer  
7 would be -- well it doesn't make a huge difference  
8 and it's making a difference because it's changing  
9 the puff number. And when I answered before, and I  
10 should make sure I'm really crystal clear here so I'm  
11 not misleading you or myself or anyone else, the  
12 addition of CPCL, which is a reconstituted tobacco  
13 made with the ammonia technology, causes the  
14 cigarette burn rate to go down you get an increased  
15 number of puffs, therefore you get more tar and more  
16 nicotine unless you counteract that by filtering  
17 more, which is in fact what we do.

18 Q. Well sir, you would agree --

19 A. So you get back to where you started.

20 Q. Sir, you would agree that bound nicotine is a  
21 larger molecule than unbound nicotine, wouldn't you?

22 A. Well if we mean -- Golly, depends what you mean  
23 by "bound nicotine." But it's -- it's doubly charged  
24 if it's diprotonated, and I suppose it is but, you  
25 know, we're down in atomic science and I'm not sure

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1 where -- if I can answer this very sensibly.

2 Q. Well a monoprotinated molecule of nicotine is  
3 smaller than a bound or diprotinated molecule of  
4 nicotine; right?

5 A. Well, a nicotine molecule is a nicotine  
6 molecule, and then it becomes an ion as soon as it's  
7 protonated and then diprotinated, and golly, I'm not  
8 enough of a whatever it is to tell you what their  
9 different sizes are.

10 Q. So sir, is it beyond your area of competence to  
11 testify about whether free nicotine gets absorbed  
12 faster in the lower portion or the alveoli of the  
13 lung?

14 A. Well it's not my competence. I think that when  
15 nicotine gets absorbed down there from these little  
16 aerosol particles it's -- a little particle is  
17 immediately bathed in physiological fluid which is  
18 around a pH of 7.2, so there will be a small portion  
19 of unbound nicotine and then some protonate and then  
20 diprotinated and the unbound goes through and then  
21 dissociation goes on and on. But I don't think that  
22 the -- the pH of what lands actually has much effect  
23 on how fast it's absorbed.

24 Q. Sir, you really don't know one way or the other,  
25 do you, whether the size of the nicotine molecule

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1 affects the rate of absorption by the body.

2 A. Well the science doesn't have anything to do  
3 with it, it's whether it's protonated or unprotonated  
4 and the degree --

5 (Interruption by the reporter.)

6 A. The size doesn't really have anything to do with  
7 it. Once you're down at the molecular level it's  
8 going to be more, you know, in the physiological  
9 fluid and it all happens very fast and I don't think  
10 it's going to happen any faster or slower depending  
11 on what the pH of that little particle was that  
12 landed there.

13 Q. But sir, that's not your area of competence, is  
14 it?

15 MR. McCORMICK: When you say his "area of  
16 competence," are you talking about training or  
17 experiments which he's personally done versus --

18 MS. WIVELL: Yes.

19 MR. McCORMICK: -- what his role was at the  
20 company?

21 Q. That's not your area of professional training or  
22 competence, is it, sir?

23 A. I'm not sure that it's anyone's specifically,  
24 but in terms of chemistry and some sort of  
25 rudimentary scientific knowledge, I -- I think what I



1 have said is quite accurate.

2 Q. But you would agree that Brown & Williamson has  
3 known for years that smoking impact and the sensation  
4 that a smoker gets from taking a cigarette has to do  
5 with the amount of free nicotine in the cigarette  
6 smoke.

7 A. No. I mean that -- that term is used loosely  
8 but it's incorrect. If you go back to the  
9 British-American Tobacco Company reports, we talked  
10 about this at great length last time. You've shaken  
11 this stuff up in chloroform, and what comes out in  
12 chloroform is called, quote, free nicotine but it  
13 isn't really. And you showed me earlier that --  
14 something this afternoon, and I said in my previous  
15 deposition. But what I'm trying to do is give you  
16 the best accurate facts as known today.

17 Q. But sir, Brown & Williamson ammoniated its  
18 cigarettes with the idea in mind to increase  
19 nicotine-transfer efficiency of the nicotine in its  
20 cigarette products; isn't that true?

21 A. No, we did it to try and make them taste like  
22 Marlboro.

23 Q. Well sir, one of the reasons that you tried to  
24 make them taste like Marlboro is because Marlboro had  
25 a higher pH and had an increased nicotine-transfer

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1 efficiency; isn't that true?

2 MR. FRYKBERG: Object to form.

3 (Interruption by the reporter.)

4 A. Well, that was part of our hypothesis but, I  
5 mean, in fact it's -- that's not the case. The fact  
6 is that just people preferred the taste of Marlboro.

7 Q. Well sir, going back to Exhibit 183, if we turn  
8 to the page that ends with Bates number 030, there is  
9 a comparison of blend, smoke ammonia and  
10 nicotine-transfer efficiency of Viceroy, Marlboro and  
11 Winston; right?

12 A. I'm sorry, what page are we on?

13 Q. 030.

14 A. Yes.

15 Q. And sir, this chart shows that Marlboro had a  
16 nicotine-transfer efficiency of 17.8 percent, didn't  
17 it?

18 A. Yes.

19 Q. It was higher than Viceroy and Winston, wasn't  
20 it?

21 A. Well Winston doesn't give any data. Higher than  
22 Viceroy.

23 Q. Now sir, you would agree that Brown &  
24 Williamson, based on the information it had  
25 concerning Marlboro cigarettes, spent millions and

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1 millions of dollars to try and copy the taste and  
2 impact sensation that Marlboro presented to a  
3 smoker.

4 A. Well we tried to get there and then we tried to  
5 get something they would like even better, but we  
6 thought if we could get there then we'd at least be  
7 on the way.

8 Q. And that's because Marlboro's sales had  
9 skyrocketed up and Brown & Williamson's cigarette  
10 sales had gone down; right?

11 A. That's right.

12 Q. And Brown & Williamson reverse engineered  
13 Marlboro to try and figure out why Marlboro smokers  
14 like Marlboro better than Brown & Williamson's  
15 cigarettes; right?

16 A. Well hang on a second. We reverse engineered to  
17 try and understand how Philip Morris -- what  
18 ingredients they used to make Marlboro; the  
19 hypothesis being that it was the taste of Marlboro,  
20 rather than the advertising, which was causing the  
21 whole thing. Of course we could have been terribly  
22 wrong. It might have been all the advertising, but I  
23 don't know.

24 Q. But you found out that the secret of Marlboro  
25 was ammonia; right?

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1 MR. FRYKBERG: Object to form.

2 A. Well, the -- a large part of getting the  
3 characteristic taste sensations of Philip Morris  
4 cigarettes, not just Marlboro but most of their other  
5 brands as well, was to use this ammonia technology in  
6 the preparation of reconstituted tobacco, which  
7 basically what that was doing was producing some very  
8 flavorful compounds by its reaction with sugar.

9 Q. And you would agree that British-American  
10 Tobacco Company worldwide has instituted ammonia  
11 technology among all of its group tobacco companies;  
12 isn't that true, sir?

13 MR. KOMAR: Object to form.

14 A. Well, you know, I can't speak for all of them  
15 and it works very well in American blended-type  
16 cigarettes but I'm not sure that it -- it works  
17 particularly well in flue-cured cigarettes or some  
18 other kinds of cigarettes that are smoked around the  
19 world but --

20 Q. Are you familiar with Worldwide Best, sir?

21 A. Well it's a project that's been running for some  
22 time which was trying to develop a cigarette to  
23 compete with Marlboro worldwide, yes.

24 Q. And isn't it true that the tobacco member  
25 companies of British-American Tobacco -- tobacco

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1 group have spent literally tens of millions of  
2 dollars in order to institute ammonia technology to  
3 try and come up with a cigarette worldwide that would  
4 beat Marlboro?

5 A. You know, I don't know how many millions of  
6 dollars, but certainly that has been a very major  
7 emphasis in R&D is -- yeah.

8 Q. And one of the reasons that Brown & Williamson  
9 and the other members of the B.A.T. group company did  
10 this was to try and increase the nicotine-transfer  
11 efficiency of their cigarettes; isn't that true?

12 A. No, no, that's -- was a hypothesis and part of  
13 the thing, but it turns out it's got nothing to do  
14 with it. The important thing are these flavorful  
15 compounds that are generated.

16 Q. Well sir, that was a hypothesis that was  
17 discussed with all of these British-American Tobacco  
18 Company representatives when you brought them all  
19 together in Louisville in 1989; right?

20 A. Well I think that if -- Somewhere, and this is a  
21 huge great document, but somewhere, it may not be  
22 this one, it may be a report put together, but it  
23 says that this ammonia technology is -- is doing what  
24 naturally occurs in cigarettes anyway, that this --  
25 this reaction is some of the basic compounds with

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1 sugars during aging and blending and that this is  
2 producing the characteristic American blend flavor  
3 which Philip Morris managed to enhance, and at least  
4 in our view was one of the contributors to the  
5 success of Marlboro.

6 Q. Well sir, isn't it true that at this conference  
7 that's talked about in Exhibit 183, nicotine-transfer  
8 efficiency due to ammoniation was one of the topics  
9 that was discussed with all of the conferees who came  
10 to the conference?

11 MR. McCORMICK: Could you, in the interest  
12 of time, direct him to a portion of this, if that's  
13 the case?

14 Q. Well, sir, directing your attention to page 017,  
15 there is a discussion in the center on the main  
16 effects of ammonia technology; right?

17 A. Sure and --

18 Q. And it says in number -- point number 2,  
19 "Improved nicotine transfer," doesn't it?

20 A. Right. And point number 1 is "Enhanced natural  
21 flavor/body" that I've been talking about. This  
22 improved nicotine transfer, it's -- it's a fact, it's  
23 not a huge amount, and the whole -- this whole  
24 business of this nicotine-transfer efficiency which I  
25 admit Brown & Williamson, B.A.T. sort of had a bee in

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1 their bonnet about for quite some time, is a real red  
2 herring because the amount of nicotine that comes out  
3 of the end of the cigarette is controlled largely by  
4 your filter and the choice of cigarette paper.

5 Q. Well sir, isn't it true that --

6 A. It doesn't -- I'm sorry.

7 MR. McCORMICK: Go ahead, sir, and finish.

8 A. But if I could just finish.

9 Improved nicotine transfer has nothing to do  
10 with whether or not somebody likes a cigarette. All  
11 the nicotine transfer leads to is what is the number  
12 that's going to be derived by the standard smoking.  
13 Whether people like the cigarette is this whole  
14 complex of flavor and everything else that goes into  
15 the smoke.

16 Q. Sir, isn't it true that this bee was in Brown &  
17 Williamson and British-American Tobacco's bonnet  
18 about nicotine-transfer efficiency being improved by  
19 ammonia right up to the day that the FDA asserted  
20 authority over cigarettes as drugs?

21 MR. McCORMICK: I think he said  
22 British-American Tobacco Company. You can answer.  
23 A. Well, okay. The bee was in some of my  
24 colleague's bonnets and my own bonnet from time to  
25 time. I'm not sure it was the day I retired -- I

1 really don't think the FDA desire to regulate  
2 nicotine was the thing that caused any light bulbs to  
3 flash. As I say, it was a red herring.

4 Q. Well sir, isn't it true that if British American  
5 -- I'm sorry, strike that.

6 Isn't it true that if Brown & Williamson  
7 admitted to the FDA that it intended to use ammonia  
8 technology to increase the transfer of nicotine, that  
9 that would mean it would have to submit voluntarily  
10 to the FDA's authority to regulate cigarettes as  
11 drugs?

12 A. Well no. I mean, the -- the mere act of putting  
13 on a filter or changing the filter efficiency of a  
14 cigarette changes the nicotine-transfer efficiency.  
15 I mean nicotine-transfer efficiency is one of the  
16 most basic parts of cigarette design.

17 Q. And you would agree that ammonia changes the  
18 nicotine-transfer efficiency of cigarettes, doesn't  
19 it?

20 A. No, it all depends how -- If you're using this  
21 ammonia technology to make this denser reconstituted  
22 tobacco that certainly does because it changes the  
23 burn rate. Simple addition of diammonium phosphate  
24 may slow the burn rate down a little bit, I'm not  
25 sure. But, you know, it's not a big deal, and as I'm

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1   trying to point out, the filter, the degree of  
2   ventilation, the cigarette paper has a much, much,  
3   much greater effect on nicotine-transfer efficiency  
4   and is an every day cigarette design tool to make the  
5   cigarette conform to a particular tar level.

6   Q.   Sir, I understand that those are factors, but  
7   you would agree, wouldn't you, sir, that ammoniation  
8   of the tobacco in nicotine affects the transfer  
9   efficiency of the nicotine in the tobacco?

10   A.   As you stated your question, no.

11   Q.   So you just disagree with that hypothesis;  
12   right?

13   A.   No, I said "as you stated your question," which  
14   if you'd like to get it read back you'll realize why  
15   I disagreed with it.

16   Q.   All right. Why did you disagree with it, sir?

17   A.   Let's ask the reporter to read it back.

18                   (Record read by the reporter.)

19   Q.   Let me restate the question.

20           I understand those are factors, sir, but you  
21   would agree, wouldn't you, that the ammoniation of  
22   the nicotine in tobacco affects the transfer  
23   efficiency of that nicotine.

24   A.   Just to help you, Ms. Wivell, the -- you said  
25   "the ammoniation of the nicotine," and the nicotine

1 doesn't get ammoniated, the --

2 Q. The tobacco gets ammoniated, doesn't it, sir?

3 A. Well the -- The ammoniation is a reaction

4 largely of nicotine with the sugars, and if you just

5 took some flue-cured tobacco and ammoniated it there

6 would be this reaction of ammonia with the sugars to

7 produce these flavorful compounds, and I don't think

8 that, per se, would have any effect on the burn

9 rate. It's when you somehow are using the ammonia

10 technology or the ammonia salts to produce a

11 slower-burning material, such as some kinds of

12 reconstituted tobacco, that then there is an increase

13 in both tar and nicotine because of a diminution in

14 burn rate.

15 Q. And sir, you would agree that one of the reasons

16 that Brown & Williamson used ammonia on its tobacco

17 was to try and free up more nicotine for the smoker,

18 wouldn't you?

19 A. Well again, you know, that's a hypothesis that

20 may have been put in, but in fact the amount of

21 nicotine that gets to the smoker is really controlled

22 in very large part by the cigarette filter and the --

23 the design of the cigarette and much -- not really at

24 all by this ammoniation.

25 Q. Well sir, the ammoniation affecting the amount

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1 of nicotine that is freed up and transferred to the  
2 smoker, that was a working hypothesis at Brown &  
3 Williamson while you were there, wasn't it?

4 A. It was certainly a hypothesis of Chakraborty's,  
5 yeah.

6 (Interruption by the reporter.)

7 A. Hypothesis of Chakraborty's,  
8 C-H-A-K-R-A-B-O-R-T-Y.

9 Q. And that was a hypothesis that was presented to  
10 all the people who attended the nicotine conference  
11 that is referred to in Exhibit 183, isn't it?

12 MR. McCORMICK: Again, do you have a  
13 reference there to the report, Ms. Wivell?

14 A. Well, I don't know. I think we're probably kind  
15 of all repeating ourselves, but this summary page  
16 Chakraborty's says there are main effects of ammonia  
17 disposition were the enhanced natural flavor, the  
18 improved nicotine transfer, the reduced irritation  
19 and the superior paper reconstituted.

20 Q. And sir, it was also the hypothesis that was  
21 presented by Dr. Werner Bass of B.A.T. companies  
22 British -- or I'm sorry, German subsidiary, isn't  
23 it?

24 MR. McCORMICK: Again, can you provide the  
25 witness a reference?

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1 MR. KOMAR: Object to form.

2 (Interruption by the reporter.)

3 A. I'm sorry, I can't think of somebody called  
4 Werner Bass so I do need a reference.

5 Q. I'm sorry, Werner Hass.

6 A. I think I still need a reference.

7 Q. Could you turn to page 091.

8 A. Okay, yes. Werner Hass.

9 Q. And he is from BATCo's German subsidiary?

10 A. BAT Cigaretten Fabriken.

11 Q. That's right, isn't it, sir, it's

12 British-American Tobacco Company -- or B.A.T.

13 Industry's German subsidiary; right?

14 A. Well it's the German arm of -- Well, it's as it  
15 says, BATCF. Now what are we looking for here?

16 Q. All right. Well sir, he presented a paper at  
17 this conference entitled "Effects of Ammonia on  
18 Nicotine Distribution in Cigarette Blends"; right?

19 A. Yes.

20 Q. And one of the things he talked about was the  
21 fact that "ammonia and nicotine transfer, readily  
22 ammonia faster"; right?

23 A. Right.

24 Q. And sir, isn't it true that throughout the

25 B.A.T. group at the time this conference was held it

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1 was believed that ammoniation affected an increased  
2 nicotine transfer?

3 MR. KOMAR: Object to form.

4 A. Again let's -- I don't know what you mean by  
5 "throughout the B.A.T. group." Let's talk, if you  
6 don't mind, because largely the people that worked on  
7 this are the people in British-American Tobacco  
8 Company in England, the people in Louisville Brown &  
9 Williamson, and the people at B.A.T. Cigaretten  
10 Fabriken who worked on this, and Werner Hass was  
11 looking at how ammonia and nicotine transfer amongst  
12 the various blend components once you put a cigarette  
13 together; so you have oriental tobacco and you have  
14 flue-cured tobacco and you have burly tobacco, and  
15 burly tobacco naturally contains nicotine -- sorry,  
16 naturally contains ammonia as well as nicotine. So  
17 when you put a blend together, leave -- not doing any  
18 ammoniation, but just burly tobacco, flue-cured  
19 tobacco and oriental tobacco, which is what American  
20 and German cigarettes are made from, ammonia  
21 transfers from the burly tobacco to the flue-cured  
22 tobacco and then reacts with the sugars there.

23 Q. Sir, let me ask you this question. You  
24 concluded, as a result of your investigations, that  
25 five of the six major U.S. cigarette manufacturers

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1 used ammonia technology in at least some of their  
2 marketed cigarettes; right?

3 A. Right.

4 MS. WIVELL: I have nothing further.

5 MR. McCORMICK: Any other questions?

6 MR. CAMPF: Let me just make a statement  
7 for the record before we go off. This is Brian Campf  
8 for the New York plaintiffs. This deposition was  
9 cross-noticed in the New York actions, and as I  
10 understand it, was served upon counsel.

11 Mr. McCormick has informed me today that he did  
12 not receive notice of our cross-notice until this  
13 morning and that the witness is not available  
14 tomorrow morning at the time for which our deposition  
15 in the New York cases was to continue from today, and  
16 Mr. McCormick has kindly agreed that we will work to  
17 reschedule the deposition of this witness at a  
18 mutually convenient time.

19 MR. McCORMICK: I agree. You don't have  
20 any questions about the 30.02 portion?

21 MR. CAMPF: No, I'll carry forward with my  
22 questions when we again reschedule this deposition.

23 MR. McCORMICK: Well you have an  
24 opportunity to question now. Do you have anything at  
25 this point?

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1 MR. CAMPF: Not now, but I'm reserving my  
2 rights to carry forward when we commence for the New  
3 York cases.

4 MR. McCORMICK: All right.

5 MS. WIVELL: Excuse me, Steve, are you  
6 going to ask some questions?

7 MR. McCORMICK: Yes, I am.

8 MS. WIVELL: Can we take a brief break?

9 MR. McCORMICK: Surely, of course.

10 (Discussion off the stenographic record.)

11 EXAMINATION

12 BY MR. McCORMICK:

13 Q. Mr. Reynolds, going back to early in the  
14 questioning today by Ms. Wivell, you were asked about  
15 a series of research efforts that were undertaken on  
16 behalf of British-American Tobacco Company by the  
17 Battelle facility in Switzerland. Do you recall --  
18 A. Yes.

19 Q. -- that general area of questioning?

20 And in particular a series of studies sometimes  
21 referred to as HIPPO, MAD HATTER and a document  
22 referred to later as "The Fate of Nicotine in the  
23 Body." Do you recall generally having testified  
24 about that both today and in your previous  
25 deposition?

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1 A. Today. I don't recollect the previous one.

2 Q. All right. With respect to the work on nicotine  
3 that was done by the Battelle organization for  
4 British-American Tobacco Company back in late nine --  
5 in the late 1950s and early 1960s, was that work  
6 which you described as premature in the form in the  
7 reports that were ultimately submitted by Battelle,  
8 was that work continued in the U.K. following the  
9 completion of those research reports?

10 MS. WIVELL: Objection.

11 A. My understanding was that Armitage, the  
12 criticizer who is head of the Tobacco Research  
13 Council labs in Harrogate, England, did a lot more  
14 work in the area of the interaction of nicotine with  
15 animals, I think it was both cats and possibly dogs,  
16 and that all this stuff was published in the  
17 scientific literature.

18 Q. And by Tobacco Research Council in Harrogate,  
19 the Tobacco Research Council in the United Kingdom  
20 was a cooperative industry research program; is that  
21 correct?

22 MS. WIVELL: Objection.

23 A. Well, it was funded by the industry. I believe  
24 that it was -- I'm trying to think -- independent. I  
25 mean the industry didn't dictate what it did, but the

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1 industry gave it money to do stuff.

2 Q. "Cooperative" in the sense that it was funded  
3 by, among other people, British-American Tobacco  
4 Company.

5 MS. WIVELL: Objection.

6 A. That's correct.

7 Q. And to your knowledge, was that work done on the  
8 subjects that were -- that had been discussed and  
9 explored preliminary by -- preliminarily by Battelle,  
10 was that work published in the open scientific  
11 literature?

12 A. I can recollect some specific papers by Armitage  
13 on nicotine absorption and the fate of nicotine,  
14 reaction of nicotine, I'm not sure if all word for  
15 word was but, I mean, the general area was published.

16 Q. Now Mr. Reynolds, you were shown earlier a  
17 document that was marked as Defendants Exhibit 552  
18 that was a document, two-and-a-half-page document by  
19 Hasselbach and Libert called "A TENTATIVE HYPOTHESIS  
20 ON NICOTINE ADDICTION," and I'm going to put that in  
21 front of you again if I may.

22 During the course of this short interrogation  
23 this afternoon that term "hypothesis" has been used  
24 many, many times. Could you explain for the court  
25 and the jury what is meant by -- in science by the

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1 use of the term "hypothesis"?

2 MS. WIVELL: Objection.

3 A. Well, a hypothesis is coming up with a possible  
4 explanation for something that can be tested  
5 experimentally, and that's all it is. Subsequently  
6 facts may say this explanation that we've suggested  
7 is true or may say it's not true. Let me give you a  
8 -- a real concrete example which I think would sink  
9 home to most of us.

10 For many years it was not just a hypothesis, it  
11 was thought that stress was what was causing stomach  
12 ulcers, but in fact about seven or eight years ago an  
13 Australian physician showed that it was an ulcer and  
14 people laughed at him.

15 Q. It was an ulcer?

16 A. Bacterium causing stomach ulcers.

17 And so this hypothesis about stress was just  
18 totally wrong and eventually it was factually proven  
19 it was a bacterium, so that's an example.

20 Q. All right. In the normal scientific usage when  
21 a scientist says that he or she has developed a  
22 hypothesis, does that mean that that scientist  
23 believes that he or she has found the scientific  
24 answer to the question?

25 MS. WIVELL: Objection.

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1 A. They -- They hope they have but they -- as I  
2 say, it's a hypothesis because they don't know  
3 whether it is or isn't the answer to the question  
4 until they've done the experiment to ascertain that.

5 Q. So a hypothetical --

6 Would it be fair to say that a hypothesis is, by  
7 definition, a tentative conclusion?

8 MS. WIVELL: Objection.

9 A. Well no, I don't think it's even -- it's not a  
10 tentative conclusion, it's -- it's a possible  
11 explanation of something that's occurring and there's  
12 nothing at all conclusive about it.

13 Q. All right. And with respect to Plaintiffs'  
14 Exhibit 552, "A TENTATIVE HYPOTHESIS OF NICOTINE  
15 ADDICTION," is there any data contained in this two  
16 and a half pages? Does this report purport to be the  
17 result of a study or the interpretation of some  
18 findings that were done?

19 MS. WIVELL: Objection.

20 A. Well let me -- I'm not even sure if I'm going to  
21 answer the question you asked, but a tentative  
22 hypothesis itself is a bit redundant. If it's a  
23 hypothesis, it's tentative. But when -- They're  
24 talking about some facts, they say laboratory  
25 experiments with rats, injection of nicotine induces

1 a marked reduction in food intake but, you know, I'm  
2 not quite sure how that then all -- all balances  
3 together, and I don't even -- I don't even know  
4 specifically what they were meaning by "nicotine  
5 addiction." But I -- I don't think, you know, anyone  
6 really considers nicotine, per se, to be addictive.

7 Q. Now you were also shown, Mr. Reynolds, a  
8 document that was marked for identification as  
9 Plaintiffs' Exhibit 475, and just in the interests of  
10 time I believe you'll recollect this, you were  
11 referred to a paragraph in the middle of a  
12 discussion, the heading of that discussion a couple  
13 of pages earlier was titled "Tomkins' Theory." Do  
14 you recall that?

15 A. Yes.

16 Q. And that --

17 Is that document, or particularly that section  
18 of the document a recitation or somebody's recitation  
19 or reiteration of something called Tomkins' theory?

20 MS. WIVELL: Objection.

21 A. Well yes, it is, and I -- and I thought I'd --  
22 I'd hoped I'd made that clear when Ms. Wivell asked  
23 me the question earlier.

24 Q. And I think you had, but my question really is  
25 going to be: Who is Tomkins?

1 A. Well, some psychologist that had a theory about  
2 smoking motivation, certainly not a British-American  
3 Tobacco or Brown & Williamson employee, some  
4 presumably psychologist or psychiatrist, but I don't  
5 know who -- who Tomkins is.

6 Q. Okay. But this document in this respect  
7 purports to be a recitation of something that had  
8 been published somewhere by someone named Tomkins.

9 MS. WIVELL: Objection.

10 A. Well that's my understanding, yes.

11 Q. Ms. Wivell asked you about somebody who I  
12 believe she characterized as a -- Well, let me start  
13 that over.

14 Ms. Wivell asked you about somebody by the name  
15 of Dr. M. A. H. Russell who Ms. Wivell characterized  
16 as a -- a consultant or asked you if he had been a  
17 consultant. Can you explain who Dr. M. A. H. Russell  
18 was in the United Kingdom?

19 A. Well I think he still is, I may be wrong.

20 Q. And still is.

21 A. He's a leading figure in the smoking-and-health  
22 world. I believe he's at the Maudsley Institute of  
23 Psychiatry --

24 (Interruption by the reporter.)

25 A. -- Maudsley Institute of Psychiatry which is

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1 part of the University of London, he is dedicated to  
2 the view that smoking is a major cause of disease,  
3 that smoking is addictive. He is a -- I don't mean  
4 to use it unkindly, but he is as antitobacco as  
5 anyone I can think of.

6 Q. Mr. Reynolds, at the end of your interrogation  
7 by Ms. Wivell today she asked you a series of  
8 questions on the subject of free nicotine which I  
9 believe the record will reflect was discussed in  
10 great detail and for several hours during the course  
11 of your previous deposition, and I don't want to or  
12 mean to reiterate the question -- all of the  
13 questions that I asked you about that subject when I  
14 had a chance to ask you the last time, but let me  
15 just sum up to make sure we are clear on this  
16 subject.

17 Does the addition of ammonia to -- as it was in  
18 fact incorporated commercially by Brown & Williamson,  
19 as opposed to what laboratory experiments might have  
20 shown, does the addition of ammonia as Brown &  
21 Williamson utilized it commercially, have any affect  
22 on the amount of nicotine that is available to and  
23 absorbed in the lungs of the smoker?

24 MS. WIVELL: Objection.

25 A. No.

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1 MR. McCORMICK: That's all I have.

2 MS. WIVELL: All right. I would like to  
3 take a break now.

4 MR. McCORMICK: Of course.

5 THE REPORTER: Off the record, please.

6 (Recess taken from 5:03 to 5:09 p.m.)

7 EXAMINATION

8 BY MS. WIVELL:

9 Q. Sir, you spoke as -- in response to Mr.  
10 McCormick's questions about the studies of project  
11 HIPPO, project MAD HATTER and the study entitled "The  
12 Fate of Nicotine in the Body"; right?

13 A. Yes.

14 Q. You didn't mean to imply to the ladies and  
15 gentlemen of the jury that someone named Armitage did  
16 that work, did you?

17 A. No.

18 Q. Armitage published his work, didn't he?

19 A. Yes.

20 Q. And these studies that were done as part of  
21 Battelle's work on project HIPPO, project MAD HATTER  
22 and the study entitled "The Fate of Nicotine in the  
23 Body" were never published by British-American  
24 Tobacco Company, were they?

25 A. No.

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1 Q. You didn't mean to imply that they were when you  
2 were talking about Dr. Armitage publishing his work  
3 that was done later, did you?

4 A. No. What I was pointing out was that the  
5 preliminary work that was done at Battelle was kind  
6 of expanded on at the Tobacco Research Council  
7 laboratories, and then that was published.

8 Q. But just so we're clear, Dr. Armitage did not do  
9 the work at Battelle Institute on project HIPPO,  
10 project MAD HATTER or "The Fate of Nicotine in the  
11 Body," did he, sir?

12 A. That's correct.

13 Q. And sir, you would agree that the work that  
14 British-American Tobacco Company funded on project  
15 HIPPO, project MAD HATTER and "The Fate of Nicotine  
16 in the Body" was never published in the scientific  
17 literature, was it?

18 A. That's correct.

19 Q. Now sir, you also talked about Exhibit 552, Dr.  
20 Hasselbach and Libert's hypothesis concerning  
21 nicotine addiction; right?

22 A. Right.

23 Q. Their hypothesis was borne out, wasn't it, sir?

24 A. I'm sorry? I don't follow you.

25 Q. Well sir, you testified, and I think I've gotten



1 this right because I wrote it down and checked it  
2 against our transcript, quote, no one really  
3 considers nicotine to be addictive. Now that's not  
4 true, is it, sir?

5 A. I'm sorry, no -- No one really considers  
6 nicotine to be addictive. No, nicotine --

7 Q. Well sir, the surgeon general of the United  
8 States considers nicotine to be addictive, doesn't  
9 he?

10 A. Well, I mean, we don't have one right now unless  
11 they've been confirmed, but no, nicotine --  
12 nicotine's not addictive, otherwise it would be  
13 leaping -- you know, everyone would be gobbling  
14 nicotine chewing gum, nicotine patches would be  
15 leaping off the shelves in drug stores but they're  
16 not, no.

17 Q. Sir, isn't it true that the surgeon general of  
18 the United States, in a report issued after 1964,  
19 concluded that cigarette smoking was addictive?

20 A. The surgeon general's report redefined the  
21 cigarette -- redefined "addiction" so that cigarette  
22 smoking would fall under that new definition.

23 Q. And you would agree, sir, that the surgeon  
24 general and the scientists who made up the report  
25 that made that, quote unquote, redefinition,

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1 concluded that cigarette smoking was addictive;  
2 right?

3 A. Well sure, if you define something the way you  
4 want to define it so that you can include a class of  
5 something or other then, I mean it's a  
6 self-fulfilling prophecy.

7 Q. Well sir, are you familiar with the testimony  
8 that's been given in this case by Defendants' expert  
9 witness, Dr. Peter Rowell, on the subject of whether  
10 nicotine is addictive?

11 A. No.

12 Q. Well sir, are you familiar with the testimony he  
13 gave to the effect that nicotine in cigarettes  
14 produces dependence?

15 MR. McCORMICK: Object to the  
16 characterization of that testimony.

17 A. Okay. Let me back up. I'm not -- You know, I'm  
18 not aware of any of the testimony he gave, so I can't  
19 be aware of a subset of it.

20 Q. Well sir, are you aware that Dr. Rowell  
21 testified that the term "dependence" and "addiction"  
22 are synonymous and interchangeable?

23 MR. McCORMICK: Objection. Same  
24 objection.

25 A. I am not aware of any of Dr. Rowell's testimony.

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1 Q. So when you testified that no one really  
2 considers nicotine to be addictive, you didn't have  
3 Dr. Peter Rowell's expert opinions in this case in  
4 mind, did you, sir?

5 MR. McCORMICK: Objection.

6 A. I did not have his transcript in front of me.  
7 Well, you know, it's just common sense it's not.

8 Q. Sir, you did not have Defendants' --

9 A. No, and I didn't need it.

10 Q. I'm sorry, may I finish?

11 When you gave that testimony you did not have  
12 Defendants' expert's opinion on the subject of  
13 whether nicotine was dependent forming, did you,  
14 sir?

15 MR. McCORMICK: I'm going to object, this  
16 is a mischaracterization of the testimony, unfair to  
17 this witness to imply that this witness -- that some  
18 other witness has given testimony when I do not  
19 believe that that's the case that he has, and in any  
20 event the question is asked and answered.

21 (Discussion off the stenographic record.)

22 Q. Let me repeat the question.

23 When you gave that testimony you did not have  
24 Defendants' expert's opinion on the subject of  
25 whether nicotine was dependence forming in mind, did

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1 you, sir?

2 A. Ms. Wivell, I've said three or four times I have  
3 never seen that particular testimony so I cannot, you  
4 know -- I can't talk about it because I've never seen  
5 it.

6 Q. All right. Well let me show you.

7 I'm going to show you Peter Rowell's testimony  
8 in this case and ask you if at page 134 he is asked  
9 the question: If I change the word from addictive to  
10 a dependence without the adjective mild, moderate or  
11 severe in front of it, as a dependence is it your  
12 opinion that nicotine in cigarettes is dependence  
13 producing? And did he answer: The nicotine in  
14 cigarettes, I would not disagree with that. I am not  
15 sure that the evidence is really strong, but it's  
16 probably a correct statement that the amount of  
17 nicotine they receive from cigarettes can produce  
18 some degree of dependence.

19 Did I read that correctly, sir?

20 A. As a dependence, is it your opinion that  
21 nicotine in cigarettes is dependence producing? And  
22 his answer is: The nicotine in cigarettes, I would  
23 not disagree with that. I'm not sure that the  
24 evidence is real strong, but it's probably a correct  
25 statement that the amount of nicotine they receive

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1 from cigarettes can produce some degree of  
2 dependence.

3 Q. And then --

4 A. And -- I mean, that wasn't the question you  
5 initially asked me at all, Ms. Wivell.

6 Q. And then, sir, he goes on to say, in his  
7 opinion, addiction and dependence are used  
8 synonymously; correct?

9 A. Well again, I don't have the context of this. I  
10 was sitting next to a lady on the plane flying here  
11 last night, never met her in -- obviously never met  
12 her in the world before. I didn't say a word. She  
13 says to me, "Have an Altoid. I'm addicted to  
14 these." People use "addiction" all sorts of ways.

15 MS. WIVELL: Move to strike as  
16 nonresponsive.

17 Q. Sir, my question is: And then Dr. Rowell,  
18 Defendants' expert opinion on the subject of nicotine  
19 and a -- nicotine addiction, testified that  
20 cigarettes -- I'm sorry -- that dependence and  
21 addiction were synonymous; correct?

22 A. No, you know, I'm -- I've not seen this  
23 document, I keep on pulling bits out of context,  
24 misreading them, weaving here and there.

25 No, I don't agree.

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1 Q. Well sir, let me show you a sentence and ask you  
2 if you had this in mind. He was asked: Do you have  
3 an opinion as to whether cigarette smoking produces  
4 withdrawal symptoms on cessation or efforts to stop?  
5 And he said: I would -- I would say so or I would  
6 agree. You have the transcript, I can't read it.

7 A. Get the right glasses here. Wrong ones.

8 MR. McCORMICK: What's the reference here,  
9 Ms. Wivell?

10 A. Okay. This is Dr. Rowell, a -- it doesn't have  
11 any of these Bates numbers, but anyway it's the --  
12 dated August 26th, 1997, and I guess it's a  
13 deposition transcript.

14 Q. All right. Let me see if I can find the page --

15 A. Well no, that -- I mean you just asked me one  
16 question, if I can give you the answer to that first.

17 Q. All right.

18 A. It's where he asks, whoever asks, somebody asks  
19 Dr. Rowell: Do you have an opinion as to whether  
20 cigarette smoking produces withdrawal symptoms on  
21 sensation or efforts to stop.

22 Q. And his answer is?

23 A. I would say it does. And can you characterize  
24 these as mild, moderate or severe? The withdrawal  
25 symptoms I would say are relatively -- relatively

1 mild, which is just the answer I gave to you two and  
2 a half hours ago.

3 Q. May I have that back, sir?

4 And then, sir, let me ask you this. You would  
5 agree that your opinion about cigarette smoking not  
6 being addictive is outside of the mainstream of  
7 scientific thought; right?

8 A. You know, we've already said this depends how  
9 you define "addiction." If you define it  
10 classically, cigarette smoking is not addictive; if  
11 you define it according to the latest surgeon general  
12 report it is, and it all depends on your definition.  
13 It's a semantic circle.

14 Q. Sir, isn't it true that one of the things that  
15 Brown & Williamson considered was -- while you were  
16 at Brown & Williamson was to develop a low-tar,  
17 high-nicotine cigarette that could be marketed as an  
18 addictive product in an ethical manner?

19 A. Well we certainly, as we've discussed before,  
20 did a lot of work on trying to develop a, quote,  
21 low-tar, normal nicotine, closed quote, cigarette in  
22 line with recommendations of people like Dr. Russell  
23 and Dr. Gori, G-O-R-I. We didn't succeed in doing  
24 that but it was thought that, you know, that was a  
25 suggestion of the health authorities and one we

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1 pursued for a long time.

2 Q. Well sir, you attended a conference with  
3 representatives -- other representatives from Brown &  
4 Williamson and an advertising agency back in 1977 at  
5 which the discussion of marketing an addictive  
6 product in an ethical manner in the form of a  
7 low-tar, high-nicotine cigarette was discussed,  
8 didn't you, sir?

9 A. Well, you know, I can hardly remember a thing at  
10 all I did in 1977. If you want to show me a  
11 document, I can then work with you on it.

12 (Plaintiffs' Exhibit 4458 marked for  
13 identification.)

14 BY MS. WIVELL:

15 Q. Sir, showing you what's been marked as  
16 Plaintiffs' Exhibit 4458, this is a document that  
17 bears the Bates number 777125397 at the bottom;  
18 right?

19 A. Right.

20 Q. And this is a memo of a meeting that you  
21 attended as a representative of Brown & Williamson;  
22 right?

23 A. That's what it says, yeah.

24 Q. And one of the purposes of this meeting was to  
25 discuss a low-tar cigarette; right?

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1 A. Well, I guess your guessing is not unreasonable  
2 that "LT" means low tar, but I'm not quite sure what  
3 the "S" means.

4 Q. All right. Well sir, if we turn to the second  
5 page of Exhibit 4458 --

6 A. Okay.

7 Q. -- there is a goals or wish list that came out  
8 of this meeting; right?

9 A. Yeah.

10 Q. And if we turn to the second-to-the-last item on  
11 that wish list, it says -- one of the wishes was to  
12 "market an ADDICTIVE PRODUCT in an ETHICAL MANNER";  
13 right?

14 A. Yeah, this is a goal and wish of P-A-T which I  
15 presume is -- I don't know who it is.

16 Q. Well sir, you attended this meeting; right?

17 A. Oh, yeah.

18 Q. All right. And --

19 A. I guess, yeah.

20 Q. -- among the wish list items there is to have a  
21 cigarette that would have free nicotine as opposed to  
22 bound nicotine; right?

23 A. Yeah.

24 MS. WIVELL: I have nothing further.

25 EXAMINATION

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1 BY MR. McCORMICK:

2 Q. Is Exhibit 4858 [sic] a Brown & Williamson or a  
3 BATCo document, or is it a document of the Hawkins  
4 McCain & Blumenthal, Inc. advertising company?

5 (Discussion off the stenographic record.)

6 Q. I'm sorry, Exhibit 4458.

7 A. I'm sorry, are you asking me?

8 Q. Yes.

9 A. As far as I can tell it's some conference report  
10 of an advertising agency.

11 MR. McCORMICK: That's all I have.

12 EXAMINATION

13 BY MS. WIVELL:

14 Q. And this conference report of the advertising  
15 agency, Exhibit 4458, is a summary of a meeting that  
16 took place that you attended; right?

17 A. Apparently so, yeah.

18 Q. And --

19 A. I'll tell you it's --

20 Q. This document came out of the files of Brown &  
21 Williamson, sir, didn't it?

22 A. Yeah, I'm not disputing that. I was trying to  
23 -- I was hesitating. I was trying to answer because  
24 it's -- I mean, I haven't looked at all of it and I  
25 guess you don't want to either, but it seems to be

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1 all sorts of bits and pieces and so I mean they're  
2 talking about creative groups in New York, and names  
3 for premium cigarettes and so it doesn't look like  
4 one meeting, it looks like a compilation of stuff and  
5 I don't -- I can't help you any more in any context.

6 Q. Well sir, at least according to the cover memo  
7 of Exhibit 4458, at the meeting that you attended the  
8 pharmacological effects of an LTS product were  
9 discussed; right?

10 A. Well, you know, that's -- that's what this says  
11 and I can't debate or dispute it. It's an  
12 advertising agency conference report.

13 Q. Do you have any recollection of the substance of  
14 the subjects that was discussed at the meeting?

15 A. I wouldn't know McCain, Hawkins or Blumenthal if  
16 I bumped into them in the street.

17 MS. WIVELL: I have nothing further.

18 MR. McCORMICK: Nothing further.

19 THE REPORTER: Off the record, please.

20 (Deposition concluded at approximately

21 5:25 p.m.)

22

23

24

25

1 C E R T I F I C A T E

2 I, Debby J. Campeau, hereby certify that I  
3 am qualified as a verbatim shorthand reporter; that I  
4 took in stenographic shorthand the testimony of M.  
5 LANCE REYNOLDS at the time and place aforesaid; and  
6 that the foregoing transcript consisting of 139 pages  
7 is a true and correct, full and complete  
8 transcription of said shorthand notes, to the best of  
9 my ability.

10 Dated at Lino Lakes, Minnesota, this 1st  
11 day of October, 1997.

12

13

14

15 DEBBY J. CAMPEAU, RPR

16 Notary Public

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## 1                   S I G N A T U R E   P A G E

2                   I, M. LANCE REYNOLDS, the deponent, hereby  
3   certify that I have read the foregoing transcript,  
4   consisting of 139 pages, and that said transcript is  
5   a true and correct, full and complete transcription  
6   of my deposition, except per the attached  
7   corrections, if any.

8

9                   (Please check one.)

10                  \_\_\_\_ Yes, changes were made per the attached

11                  \_\_\_\_ (#) Signature Page Addendums.

12

13                  \_\_\_\_ I have made no changes.

14

15

16

17

18

19

20

M. LANCE REYNOLDS

21

Deponent

22

Sworn and subscribed to before me this       day

23

of                   , 199\_\_.

24

Notary Public

25

My commission expires:

(DJC)

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